8: Waddell & Krinks OJ23 Orokaiva OJ23

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[For information on routine patterns of activities related directly to the economy, see Category 461.]

man-hours were absorbed by clinic visits and related public health activities. So, grouping all three categories together, sickness accounts for almost 7 per cent of potential activity time.

In analysing the 212.4 man-days spent inactive, Fig.6:1 indicates that 26 per cent fell during two weeks in period I when an influenza epidemic swept the area. It is during the latter part of the wet season that sickness reaches its most serious proportions, accounting for 7 per cent of potential activity time. Malaria, being endemic, is the most common cause along with other parasitic diseases of a debilitating nature; hence the seasonal pattern.

Table 6:3

Sivepe: incidence of sickness according to sex, age and cash cropping status

	Sex		Age				Cash cropping status	
	M	F	15-24	25-34	35-44	45+	Yes	No
Percentage of days sick to total survey days	5.1	4.2	2.3	2.0	1.5	8.3	1.8	8.8

Table 6:3 shows that the older people suffer most and also that non-cash croppers spend a significantly higher proportion of their time sick than cash croppers. While this is largely because the heads of non-cash cropping households are, on average, older than the others[1] it may well be that the non-cash croppers, lacking the initiative of the others, more readily assume the sick role.

Temporary absences apart, 4,990 man-days were spent in Sivepe, and during this time the villagers' activities occupied 28,975 hours, or 5.8 hours per man-day. Furthermore, virtually all these activities, except hunting, certain social activities and, occasionally, house construction, were confined to the daylight hours.

Patterns of activity and seasonal influences

The adult residents of Sivepe are active, on average, 40.6 hours per man-week, although, as Fig.6:2 demonstrates, there is a substantial variation from week to week. The actual range during the observed period was 34.4 to 51.3 man-hours.

[1] Of the 11 households resident throughout the survey the heads of the non-cash cropping ones are all in the 45+ age bracket while only 2 of the 7 cash cropping ones are.

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SIVEPE

WEEKLY PATTERN OF ACTIVITY - ALL ACTIVITIES AND SELECTED GROUPS

FIGURE 9:2

8: Waddell & Krinks E-4,5 (1964-1965) 1968 QJ23 Orokaiva QJ23

512 433 241 Such weekly variations can, in part, be correlated with rainfall (see Fig.6:5), less work being done in wet weather as virtually all Orokaiva activities are pursued out of doors; even cooking, weather permitting, is done in front of rather than inside the house. However, while the labour requirements of certain activities vary little from week to week, others are restricted to particular parts of the year or are in response to specific events, and it is these extraordinary activities which commonly account for the weekly variations in activity time.

(a) The subsistence sector

(i) Food production. Subsistence activities predominate, accounting for 30 of the 40.6 hours expended per man-week (see Table 6:4), and within these gardening is the most important single category involving 13.2 hours with bush clearing another 3.7 hours per man-week. Nine hours of the gardening time are spent on the cultivation of the staple food crop, taro.

Although the data provide little evidence for any relationship between the pattern of gardening activities and climatic seasonality, this may be accounted for by the absence of a distinct 'dry' during [461] [262] [251] 1964 (see Fig.6:4). The Sivepe people speak of the dry season as, traditionally, a 'time of famine' and intensification of work when their taro gardens are not producing and they are obliged to resort to wild yams and breadfruit for sustenance, together with the cultivated yams harvested and stored during the preceding wet season. While acknowledging that this has been substantially modified with the introduction of Xanthosoma and sweet potatoes, and the increasingly common practice of sago extraction, the fact that August 1964 proved to be a wetter month than December in Sivepe[1] results in a less well defined seasonal pattern being presented by the data than might otherwise have been the case.

[221] New garden sites are cleared throughout the year but preferably following dry spells of a week or more for successful burnings. However, there are few taro tops available for planting during the dry season itself. Table 6:4 shows that the most intensive clearing took place during period I, with 4.4 hours per man-week. This figure includes 0.8 hours expended on the communal garden and the time spent on clearing for subsistence therefore approximates more closely to the figure of 3.3 hours for period III, the early part of the wet season.

The time devoted to subsistence gardening tends to increase during the survey. However, in comparing taro, yam and sweet potato, distinct patterns of activity emerge. In taro cultivation

[1] 15.42 and 14.17 inches being recorded respectively.

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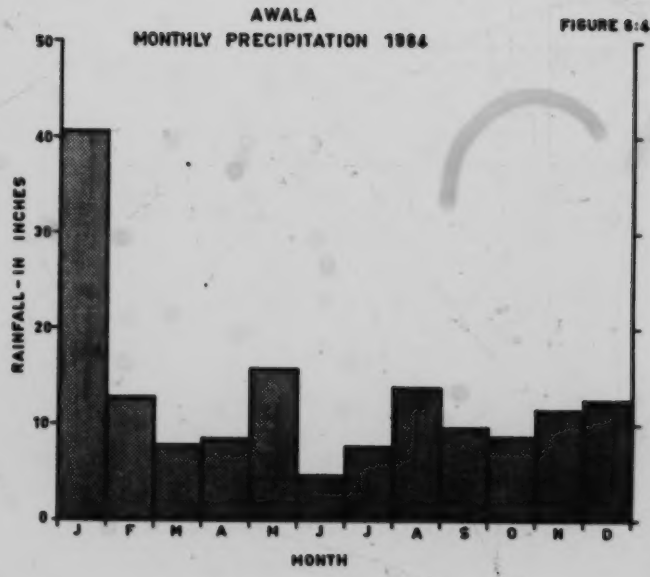

FIGURE 8:4

much time is spent in planting and, more particularly, maintenance, unlike the other crops, which suggests that their labour requirements are much lower.

In spite of the atypical weather experienced during 1964, harvesting patterns vary for the several crops. While time devoted to taro cultivation always exceeds that of the other two crops, harvesting falls off markedly during the dry season. In contrast, the time devoted to the harvesting of sweet potato increases steadily through the survey, while that of yams is confined almost entirely to the wet season when large quantities are stored in specially constructed yam houses (or occasionally in holes in the ground).

As with the sweet potato and yam, work on the minor crops and economic trees is restricted almost entirely to harvesting their products - 1.6 hours per man-week. Ins, pitpit, bananas, sugar-cane, arecs, coconuts and breadfruit are the major items in this category.

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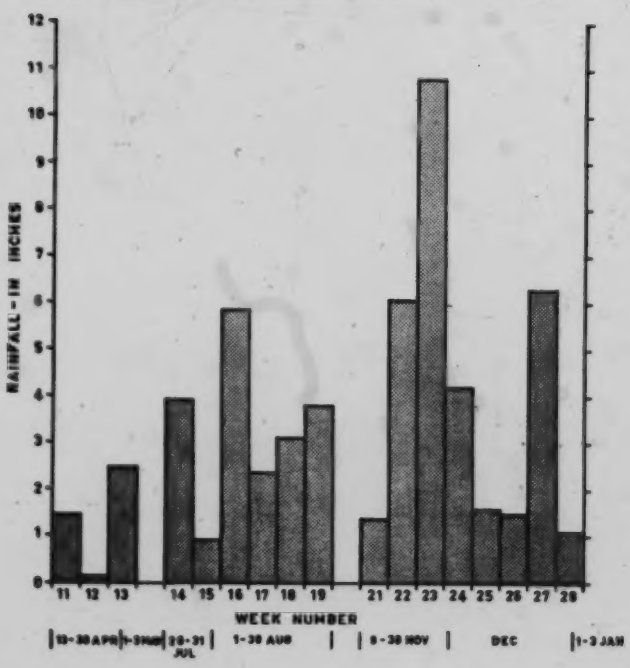
SIVEPE

WEEKLY PRECIPITATION (WEEKS 10 TO 29 ONLY) FIGURE 6:5



512 433 124 [22] Some, such as coconuts, bananas, areca and ina, are gathered throughout the year, but pitpit is collected and eaten primarily during the latter part of the wet season, while the harvesting of breadfruit is confined almost entirely to the dry season. It is at this latter time alone that activities connected with the minor foods assume some importance. During period II, 3.4 hours per man-week were devoted to the harvesting of other crops and products, over 60 per cent of this being for breadfruit alone.

8: Waddell & Krinks E-4,5 (1964-1965) 1968 QJ23 Orokaiva QJ23

Table 6:4

Siuapa: mean time spent per man-week on all activities in each recording period (hours per man-week)

Group	Activity		Period I	Period II	Period III	Survey
Clearing			4.4	2.4	3.3	3.7
Subsistence gardening	Fencing		-	-	0.2	<0.1
	Taro	- plant	1.9	2.8	3.0	2.4
		maintain	3.0	3.9	4.5	3.6
		harvest	3.4	1.9	3.0	3.0
		market	0.1	-	-	<0.1
	Sweet potato	- plant	-	-	<0.1	-
		harvest	0.7	1.1	2.4	1.3
		market	0.1	-	-	<0.1
	Yam	- plant	0.6	-	-	0.3
		maintain	-	-	0.2	<0.1
		harvest	0.8	0.1	0.6	0.6
	Minor crops	- plant	-	0.1	<0.1	<0.1
		maintain	-	-	0.1	-
		harvest	1.0	3.4	1.1	1.5
		market	<0.1	-	0.2	<0.1
	Total		11.0	13.5	19.6	13.2
Other subsistence food production	Fishing		0.2	-	0.5	0.2
	Hunting		0.7	0.8	4.8	1.8
	Sago-making		-	1.3	0.4	0.4
	Total		1.0	2.3	5.7	2.5
Other subsistence activities	Preparation of tools and equipment		0.3	-	0.5	0.3
	Construction		2.2	1.6	0.6	1.6
	Total		2.5	1.6	1.1	1.9
Household	Washing		<0.1	0.2	0.3	0.2
	Cooking		4.8	4.6	5.1	4.8
	Collecting firewood		0.2	0.5	0.3	0.3
	Total		5.1	5.4	5.7	5.2
Social obligations	Marriage		-	0.2	-	-
	Death		-	-	-	-
	Other		1.7	0.9	0.2	1.1
	Visiting		0.8	0.7	1.7	1.0
	Total		2.5	1.8	1.9	2.1
			3.0	2.8	3.2	3.4
Cash cropping	Coffee	- maintain	0.2	-	-	0.1
		harvest	0.9	0.2	-	0.5
		process	1.0	0.3	-	0.6
		market	-	0.5	-	0.1
	Rubber	- harvest	0.1	<0.1	0.5	0.2
		market	-	-	0.1	-
	Total		2.2	1.1	0.7	1.5
Paid work			2.0	1.2	1.0	1.6
Sick	Personal		0.3	0.2	1.2	0.6
	Care of sick		0.3	0.2	0.2	0.2
	Total		0.6	0.4	1.4	0.9
External agencies	Purchasing		0.7	0.4	0.7	0.4
	Council work		0.9	1.8	1.0	1.2
	Meetings		1.3	0.5	1.8	1.3
	Church work		0.3	0.5	0.1	0.2
	Church services		3.1	3.7	1.7	2.7
	Total		5.9	6.7	4.8	5.8
Miscellaneous	Recreation		0.1	0.4	0.4	0.3
	Other		0.1	-	1.1	0.4
	Researchers		0.2	-	0.2	0.2
	Total		0.4	0.5	1.7	0.8
Total - all groups			40.0	37.5	44.2	40.6

244 Breadfruit trees grow around the village and in garden areas, some being planted and others self-sown but preserved when garden sites are cleared. All are individually owned. Harvesting is relatively easy, the fruit being removed from the tree with the [262] aid of a knife attached to a long stick. Sago apart, the breadfruit comprises a major element of diet during the dry months.

433 While the inland Orokaiva are essentially food-gardeners - a [224] fact dictated largely by the density of occupation where intensive utilisation of the forest has greatly reduced its plant and animal [512] resources - both hunting and sago-making are of limited importance and occupy 1.8 and 0.4 hours per man-week respectively.

224 Traditionally the Sivepe people claim to have hunted feral pig [136] high on the slopes of Mt Lamington but this has ceased now they 'have too much to do'. No such pigs are found in the bush adjacent to the village but bandicoot, wallaby, cus-cus, flying fox, and a variety of birds are not uncommon. Periodically domestic pigs [411] enter gardens whereupon they are usually hunted out and killed, either by the irate gardener or the owner of the animal. While a spear may be used in the latter case, shotguns are now often used or special hunting parties organised where a net is employed. Use of the two shotguns held in the village is usually confined to the owner and others who contributed to its purchase. Such hunting, with the aid of a torch, is normally done on moonlit nights and is most common in the dry season when flying fox are attracted to the ripe breadfruit.

[512] During the survey, however, most hunting was done during period III when 4.8 hours per man-week were recorded, the avowed object being to 'stockpile' smoked meat for the annual Christmas feast held on Sasembata mission station. Large intra- and inter-village group drives were organised daily for two weeks, the activities being initiated by the priest blessing the dogs. Wallabies were the principal animals caught. During both weeks time spent hunting exceeded 11 hours per man-week, or more than that devoted to taro gardening. These drives were facilitated by a spell of unusually 223 dry weather.
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Sago-making is a highly seasonal activity. In Sivepe, production [22] is confined primarily to the dry season when 1.5 hours per man-week were spent on it, rising to 6.4 hours in week 16 when only taro [512] gardening, among subsistence activities, was of greater importance. The work is arduous and is only undertaken with reluctance as the [461] flour must be produced as quickly as possible following the felling of the tree. It is one of the few activities not interrupted by heavy rain.

[461] Because of the very high labour requirements, sago-making is essentially a group enterprise and, not being popular, is only commenced when a number of families have little producing food in their

[TEXT CONTINUED ON PAGE 87]

252 gardens. If absolutely necessary it will be made without outside assistance, such being the case with one household with inadequate [461] food supplies in its gardens in period III because the head had been absent for several weeks earlier in the year.

241 (ii) Seasonality and the pattern of subsistence food production. While no significant 'dry season' occurred during 1964, the data [262] gathered suggest that the cycle of agricultural activities is partly designed to allow for a dry spell at mid-year. During period II little taro or yam were producing and breadfruit and sago replaced these as the major contributors of carbohydrate to the diet. Yet an agricultural system which is characterised by a period of food scarcity was disrupted by unseasonally wet weather. Heavy rains deterred people from carrying out routine garden tasks, including food gathering, and probably accounted for the postponement of sago-making. On a number of nights during this period evening meals were not prepared because of rain and individual families went to bed hungry.

433 (iii) Marketing of subsistence produce. This is only a minor activity amounting to 0.3 hours per man-week. Food crops may be 512 sold either at the weekly market at Saiho hospital or exchanged for trade goods at Sasembata mission station, but their rates are so low that there is no systematic production of food crops for sale [432] to these bodies.[1] Although more favourable prices probably obtain at Popondetta market, distance and lack of transport preclude the Sivepe people from selling there.

(iv) Other subsistence activities. Other subsistence activities comprise the preparation of tools and equipment and house construction. Handicraft work only accounts for 0.3 hours per man-week and primarily involves the preparation of axe handles, spears, traps and nets for hunting, troughs for fermenting coffee, a variety of mats and bags made from woven palm leaves, and various decorative items of a ceremonial nature.[2]

While mats and bags are made throughout the year, the other tasks are largely related to seasonal and specialised needs, the peak (0.5 hours per man-week) occurring in period III with the preparation of hunting equipment and ceremonial dress for the Christmas festivities.

Forty per cent of the time spent in the preparation of tools and equipment is taken up by ceremonial goods, 25 per cent by woven baskets and mats, and 20 per cent by traps, nets and spears for

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[1] See p.20.A

[462] [2] String bags have been excluded on the grounds that, although probably the most important piece of equipment, the women usually make them in the course of doing household tasks.

A.[See Category 436, p.20--Analyst]

433 hunting. The little time devoted to the preparation of tools for
●512 the main subsistence enterprises reflects the degree of technological substitution which has occurred since contact.

Construction and repair of houses normally continues throughout the year, here occupying 1.6 hours per man-week. In Sivepe such activity declined during the course of the survey as plans were formulated to transfer the village to the new site. Of 13 houses whose occupants were not newcomers to the village, 4 were completely rebuilt during the year and, in addition, 2 completely new houses were built and a number of extensions and repairs made to others. This 'crude birth rate' suggests the life of a house to be about [342] 3.25 years. Since each house takes about 110 man-hours to build (including the gathering of materials), about 0.6 hours per man-week must be devoted to reconstruction in a normal year. In Sivepe about 0.9 hours were devoted as a result of additional houses being built, the balance (0.7 hours) accounting for repairs and minor extensions.

[252] Household tasks occupy 5.3 hours per man-week, cooking predominat-
[462] ing with 5.0 hours. Of necessity, they vary little through the year.[1] Much of the time taken up by cooking involves simply tend-
[372] ing the fire on which the food is being prepared and it is then that the women often work on their string bags. Most firewood is obtained as a by-product of clearing, suitable lengths of timber being stacked in the garden to dry out and then carried to the village as required.

All the above subsistence activities (food production, construction, handicraft work and household tasks) can be described as 'productive' in that 'the purposeful alteration and combination of physical material' (Udy 1959:2) can be discerned in them. Together they account for 26.6 out of the total of 30 hours per man-week devoted to the subsistence sector of the economy.

512 Only 3.4 hours per man-week are spent in fulfilling social
182 obligations. Although categorised here as non-productive activity, it should be stressed that ritual and informal social interaction are part of the fabric of the total economic system and the kinship networks which form the framework for these interactions serve as the major mechanism for distributing goods produced within the subsistence economy.

171 Belshaw, in discussing Melanesian exchange, states (1965:35):
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> A primary point to note is that a very high proportion of social contacts between adults is accompanied by gift-giving.

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[1] The figure for cooking in period I is an estimate, derived from averaging the figures for the following periods, since relevant records were not initially kept.

8: Waddell & Krinks E-4,5 (1964-1965) 1968 QJ23 Orokaiva QJ23

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> Between friends who visit one another or who meet on a path, this may amount to little more than proferring an areca nut or piece of tobacco, much as we might offer a cigarette, but with a more definite expectation that it will be done. If the purpose of the visit is a little more serious, or if it is to be extended, the gift may be of food, and certainly a host will offer meals....

He further stresses that such small transactions may be as central to the economy as the more complex ceremonialised institutions involving reciprocal exchange. Simply because such transactions and associated activities are of a moral rather than a mechanical nature and incorporate notions of social status, they cannot properly be distinguished from strictly 'productive' enterprise.

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In Sivepe time devoted to fulfilling social obligations is divided almost equally between the three categories of death (mourning), 1.1 hours, other ceremonial (feasting, farewell parties, etc.), 1.0 hours, and informal visiting, 1.2 hours per man-week.

While the pattern of visiting varies little from week to week, the more formal activities only occur irregularly. Only one death, that of a child, was recorded within the sample during the survey, but various people were involved in the deaths of four kinsmen resident elsewhere.

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The duration of mourning seems to vary in relation to the physical and social distances separating the mourned from the mourners as well as according to the status of the deceased. In the case of the child's death, 90 per cent (all but four members) of the sample participated, together with a large number of clansmen from other villages and most of the third clan represented in Sivepe. The sample members mourned continuously for an average of 11 hours each, this being terminated by a church service on the mission station. In fact, all the mourning during period I fell in four weeks, an average of 5.5 hours per man-week being recorded for these weeks.

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The time devoted to other ceremonial activities can be subdivided into four categories, the relative importance of which reflects the nature of social change among the inland Orokaiva. 'Parties' account for 38 per cent of the time so spent. These are normally held at the departure or return of kinsmen in paid employment or to mark 'birthdays' and are invariably characterised by the sale of plates of food and liquor and by western-style dancing to guitar groups.[1] Another 30 per cent of the time is devoted to traditional

[1] The term 'party' is in current usage in Orokaiva and other New Guinea languages. For a detailed description of one such event, see Crocombe 1966.

461 [464] Although returns to labour from paid work are substantially less than from cash cropping,[1] medical work is popular among young people because of their participation in a group with common interests, while contract work, being more casual than most forms of paid work, enables most village activities to be pursued concurrently with it. An important consideration for the married person is that such work can be done while continuing to reside with one's family in the village.

512 177 [797] (iii) Other activities. Of activities associated with the external sector of the economy, it is the 'non-productive' which are the most time-consuming: 5.8 hours per man-week are devoted to the external agencies, 3.0 of them to the church. The proximity of Sivepe to an Anglican mission head station run by an expatriate largely accounts for this as church activities tend to be more highly organised and frequent than on an out-station, so much so that during the Easter church festival, 13.1 hours per man-week were absorbed by services (week 8). Similarly labour requirements, in terms of voluntary assistance in erecting and maintaining buildings, are far greater at a head station.

Church activities reached a peak during period II with the Feast of St Mary Magdelene, the visit of a bishop, and the reconstruction of school classrooms. During period III a marked decline was registered, largely due to the general resentment of the villagers at what they considered to be excessive demands placed on their time during the preceding dry season. It was felt these demands had conflicted with major village activities such as cash cropping and the increased urgency of the food quest at that time.

[797] Formal gatherings or meetings are a recurrent aspect of village life. Of the 1.3 hours per man-week spent at them, 42 per cent is in connection with the Administration - at census takings, court cases, etc. - and a further 26 per cent with women's organisations - the Administration-sponsored women's club and the mothers' union run by the Anglican mission. The balance of the time is divided between political, OCGS and Oro Ltd meetings and disputes within the village.

[466] [651] The local government council dictates that one day per week be spent on road maintenance and upkeep of the village area. It also requires that all adults present themselves, annually, for tax payments and that all births and deaths are registered. Altogether this council work amounts to 1.2 hours per man-week.

[432] While Sivepe is close to a number of trade stores, the people's limited requirements from them results in little time (0.4 hours per man-week) being spent in the purchase of goods.

[1] For a detailed analysis of comparative returns to labour see pp.290, 292.

512 [75] [164] Systematic data gathered on sickness refers primarily to activities of a preventative nature - the periodic infant welfare clinics and, in one week during period III, a TB survey involving X-rays and Mantoux tests accounted for 9.1 hours per man. However, in the survey as a whole, a mean of only 0.9 hours per man-week was incurred by sickness.

Activities of a minor nature account for an average of 0.8 hours per man-week and include sport, services rendered to the researcher and, during period III, the expenditure of 0.7 hours per man-week in the preparation of the new village site. By the end of the survey much of this site had been cleared and a number of individuals were planting 'catch crops' of taro and bananas.

461 433 Within the total Sivepe economy 'productive' activities account for 29.8 hours expended per man-week, or 73 per cent of activity time. However, the productive component within the subsistence and external sectors differs greatly, being 89 per cent of activity time in the former but only 30 per cent in the latter. The absolute insignificance of cash-producing activities should be viewed in this context, of the relatively unproductive nature of Orokaivа involvement in the external economy.

592 461 <u>The organisation of work by households</u>

Table 6:5 reveals substantial variations in both the volume and patterns of activity between individual households which, while they enable a distinction to be drawn between cash cropper and non-cash cropper, are largely explicable in terms of the structure and composition of the households themselves.

With a mean activity-week of 40.6 hours recorded, the individual household range is 29.4 to 65.3 hours. However, household 12, in which the 65.3 hours per man-week are expended, is somewhat aberrant in that it consists of a widowed woman with six children, the eldest of whom is a full-time nurse at the infant welfare clinic at Sasembata, to which job she devoted an average of 53.7 hours per week. The work accounts for almost half the time expended per man-week by the whole household. This, and the absence of an adult male, seriously undermined their ability to carry out essential subsistence tasks - so they only spent 11.1 hours per man-week on clearing, subsistence gardening and other subsistence food production compared with the sample mean of 19.4 hours. Significantly, by the end of period I the household had left the village, the mother to re-marry and the eldest daughter to reside on the mission station. By eliminating household 12 the range is reduced to 29.4 to 50.4 hours per man-week.

[887] At the lower end of the range are households incorporating the oldest people in the village. While probably less productive in their labour, these people are deprived of a much higher proportion

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of individual circumstances rather than degrees of specialisation. While cash cropping households are clearly more active than the others, the substantially greater time they devote to the external sector accounts for the differential and they are no less active within the subsistence sector than their non-cash cropping counterparts. This is clearly demonstrated if household 12 is excluded from the calculations.

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Table 6:6

Sivepe: contrasting activity patterns of cash cropping and non-cash cropping households*
(hours per man-week)

	Subsistence sector		External sector		
	'productive'	'non-productive'	'productive'	'non-productive'	Total
Mean	26.7	3.4	2.5	7.5	40.1
Cash croppers	26.9	3.3	3.3	8.8	42.3
Non-cash croppers	26.7	3.5	1.2	4.9	36.3

* Household 12 excluded.

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The division of labour

(1) By sex. Although there is little variation in length of activity week between the sexes, the men distribute their time more evenly through a broader range than the women who tend to confine their attention to a few specific tasks (see Fig.6:7). Sixty-one per cent of the women's time is devoted to subsistence gardening and household tasks compared with only 29 per cent for the men; however, the latter give substantially more attention to clearing, other subsistence food production and other subsistence activities than the women (11.5, 10.9 and 8.6 per cent respectively compared with 6.7, 1.6 and 1.1 per cent) while retaining subsistence gardening as quantitatively the most important of their grouped activities. Consequently the broad allocation of time between subsistence and external, productive and non-productive activities does not differ substantially for the two sexes; the men spend 69.8 per cent of their time on productive activities and 70.3 per cent on subsistence and the women 76.3 per cent and 77.0 per cent respectively. Rather it is a matter of the women concerning themselves essentially with the daily routine of harvesting and preparing the staple foods for consumption while the men turn to the more irregular, and frequently more arduous tasks such as house construction, hunting and sago-making. In part, no doubt, this pattern reflects the formal authority structure in the household in that the men delegate responsibility for meeting routine needs to the women while they

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Table 4:7

Sivupi: the division of labour by sex

	Men	Women
Total hours active	13,934	15,041
Total weeks present	349.7	363.1
Mean activity week	39.8	41.4

Activity	Total hours	Percentage contribution*
Men		**Men**
Rubber - harvest	137.4	100
Recreation	194.7	97
Hunting	1,289.3	93
Preparation of tools and equipment	198.1	91
Church work	182.0	88
Construction	1,140.5	87
Coffee - market	77.9	85
Other crops - plant	41.8	84
Sago-making	319.7	81
Yams - plant	226.4	81
maintain	45.3	79
Purchasing	273.6	77
Taro - plant	1,714.9	75
Social obligations - other	732.7	73
Women		**Women**
Sweet potato/yam - market	51.2	100
Cooking	3,442.0	97
Sweet potato - harvest	900.2	92
Care of the sick	172.5	90
Taro - market	54.3	90
harvest	2,133.4	87
Washing	117.5	75
Both		**Men**
Rubber - market	36.1	66
Fencing	45.7	64
Coffee - harvest	353.1	62
Miscellaneous	260.6	62
Clearing	2,614.7	61
Coffee - maintain	74.5	60
Social obligations - marriage	32.7	60
visiting	873.9	56
Paid work	1,178.8	54
Other crops - harvest	1,109.0	54
Sick - personal	442.6	53
Yam - harvest	412.6	53
Coffee - process	398.4	53
Collecting firewood	234.1	52
Social obligations - mourning	783.9	51
Other crops - market	66.9	51
Church services	1,946.2	46
Meetings	898.7	46
Fishing	143.0	44
Council work	824.2	42
Taro - maintain	2,331.6	37

* Where one sex carries out more than two-thirds of the work and where the total amount exceeds .01 per cent (29.0 hours) of the total hours active for the whole sample.

8: Waddell & Krinks E-4,5 (1964-1965) 1968 OJ23 Orokaiva OJ23

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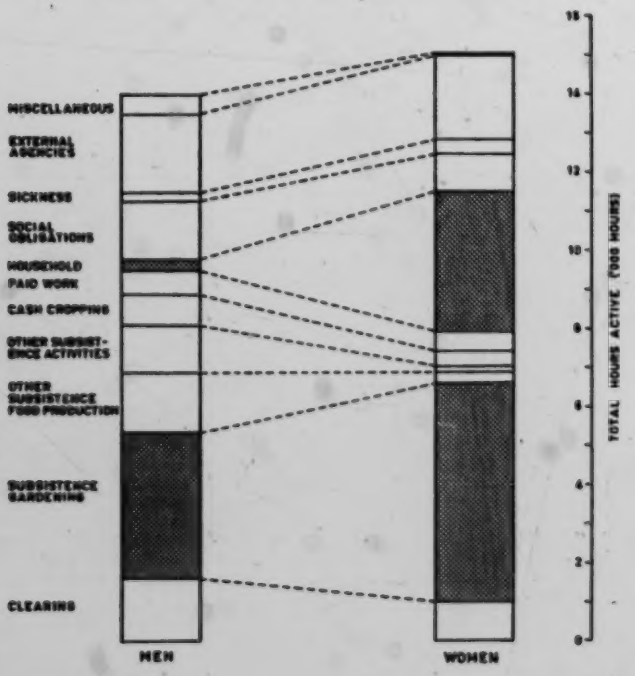
concern themselves with the prediction of future needs, or with the catastrophic aspects of the food cycle, and therefore with activities directed towards fulfilling these.

So, at the level of specific tasks, a clearer division of labour emerges, although even here there are few important activities exclusively the concern of one sex as Table 6:7 demonstrates. While subsistence gardening is largely the women's concern two tasks

SIVEPE
DISTRIBUTION OF TOTAL ACTIVITY TIME BY SEX FIGURE 6:7



predominate - the maintenance and harvesting of taro - which together account for 22.9 per cent of their activity time. Men do most planting of taro and are primarily concerned with the cultivation (including harvesting) of both yams and the minor crops. The labour of harvesting yams is shared with the women, although the men direct the operation since yams are a food crop of considerable social and economic importance, and are stored against future needs. Many of the minor crops are tree crops - areca, coconut, breadfruit, etc. - and the fact that men are more adept at harvesting them largely accounts for their greater involvement.

Clearing, although both arduous and designed to cater for long-term food requirements, is something of an anomaly in that only 61 per cent of the time expended is contributed by men. However, the women's role is subsidiary, the men being responsible only for the initial clearing and burning, and the women cleaning up the debris and piling it around tree stumps to burn again.

The fact that most marketing of subsistence crops is done by women may be viewed as a logical extension of their gardening activities. The few marketed by men - areca, tobacco, etc. - are considered male crops and a woman would not normally harvest them. But contrast, the marketing of cash crops is dominately a male concern, with the women contributing to the harvesting and processing of coffee on account of its very high labour requirements.

The single most time-consuming activity carried out by either sex is cooking, accounting for 22.1 per cent of the women's activity time. Ninety-seven per cent of all cooking is done by women, the only exceptions being the preparation of meat at feasts or for 'marketing'.

With the exception of parties which mainly attract the young men, both sexes are involved to much the same degree with social obligations and likewise there is little distinction according to sex in connection with the external agencies. Finally, care of the sick concerns women more than men only because it is they who take children to the infant welfare clinics.

(ii) By age. While there is not, strictly speaking, any division of labour according to age, there are significant variations in both the general level of activity and allocation of time. These patterns reflect both the customarily defined responsibilities of the several age groups and their diverging interests in the contact situation. Table 6:8 shows the oldest and youngest age groups to be the least active. The reasons for this need no elaboration. The limited involvement of young people in village life gives them time and opportunity for other pursuits: for the 15 to 24 years age group temporary absences accounted for 10.3 per cent of survey time and 6.5 hours per man-week were spent in paid work, but only 7.9 hours in subsistence gardening, the dominant activity of all other age groups.

The one age group not considered in the survey is children. Customarily the parents delegate various tasks to them as they get older, but the current picture is somewhat complicated by the fact that over 80 per cent of all children in the area receive at least a few years' primary schooling. Since the type of education provided has little direct bearing on village life or economy it is not uncommon for such children to profess some disdain for village tasks and the extent to which they assist their elders frequently depends upon the degree of parental authority. Children up to the age of about ten years normally play around the village in the morning and evening, going down to the creek during the hottest part of the day, when they might do a little fishing. If they accompany their parents to the garden they are left in the garden shelter or under the shade of a tree and the older ones are directed to look after the younger. Otherwise the only jobs they appear to do regularly are fetching water and tending the fire, although the older girls are given such household tasks as washing dishes and also attending to infants. Boys over the age of about ten years may hunt, build traps in the forest and do some of the more hazardous jobs like scaling trees for green coconuts, while both they and the girls are called upon to assist in pulping coffee. For those attending school, most of these activities are restricted to the weekends and holidays; even then they may resist their parents' requests for assistance, preferring instead to do a little hunting or fishing for their own amusement or to picnic together.

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The weekly pattern, daily routine and duration of activities

It is customary for ethnographic surveys to devote a section to the description of a typical working day and, in its treatment of the Orokaiva, Williams' account (1930:21-31) is no exception. What he considers to be a normal routine comprises an early breakfast from the cold remnants of the previous evening's meal followed by the departure of family groups to their gardens where they pursue their various tasks. By noon these are completed and most families are back in the village to rest in their houses for an hour or two. 'The real activity of the village commences at about three o'clock' with the preparation of the evening meal by the women, the men meanwhile restricting themselves to sedentary tasks or conversation. This is eaten near nightfall and a period of conversation or informal entertainment follows until everybody retires to sleep. Such a routine may be modified by climate, ceremonial activities and the occasional demands of the Administration and recruiters.

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Regardless of whether the daily routine in the 1920s fully conformed to Williams' description, the present pattern is substantially different, not only for those activities which are directly related to the increased commercialisation of the economy and interaction

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8: Waddell & Krinks E-4,5 (1964-1965) 1968 QJ23 Orokaiva QJ23

512 [178] with the external agencies, but also for the customary subsistence tasks. Quantitative analysis reveals significant patterns to be existing at two levels - between the days of the week and within each day.

(i) The weekly pattern. The Sivepa people speak of Wednesdays as 'Mission day' (for work at Sasembata mission station), Fridays as 'Council day' (for road maintenance and cleaning the village) and Sundays as a day of rest and attendance at church services. Of the remaining days, Monday and Tuesday are devoted to cash cropping, [805] and Thursday and Saturday to subsistence. They claim to have been directed by the Higaturu Local Government Council to work according to this routine and while it is not strictly adhered to, the concept of the week is firmly implanted in the Orokaiva mind (see Table 6:9).

512 461 [796] The basic household tasks and harvesting of subsistence crops are sustained throughout the week with little variation in time allocated, while others tend to be specific to certain days. Sunday (with Wednesday) has the shortest activity day, of 5.6 hours, this being largely a reflection of the Church's insistence that it be treated as a day of rest. Well over half the day's activities are devoted to attendance at church services, the harvesting of foodstuffs, and household tasks. Two other categories of activities assume a greater level of importance on Sundays: social obligations, particularly informal visiting, and other subsistence activities (house construction and the preparation of tools and equipment). Both are connected with the fact that, following church, much of the day is spent in the village. Although church and council work are largely restricted to their allotted days, little time is actually devoted to them and they do not appear to modify substantially the activity patterns for those days; similarly no direct relationship can be drawn between time spent on cash and subsistence cropping and the pattern of activities on the days ascribed to these tasks.

[527] The marketing of subsistence crops is restricted to Thursdays, the day of the Saiho market, while the time devoted to social obligations reaches a peak on Fridays and Saturdays when 'parties' are normally held. Sundays apart, however, the daily variation in activity patterns is not great. The total range in activity time for all the days is only 0.5 hours but on Sundays a smaller proportion of the time is directed towards productive enterprise - only 56 per cent of the total. The other days, with the exception of Friday, fall within the range of 73 to 84 per cent. On Friday only 61 per cent of the time is spent productively, probably because garden tasks are disrupted by council work in the early part of the morning. In general where extra-village activities recur each week, particularly early in the day, the proportion of productive work falls. This is apparent in the case of lengthy tasks such as clearing and sago-making, which are almost entirely restricted to those weekdays free of external commitment.

Table 4:9

Sivese: the weekly pattern of activities
(hours per man-day)

Ideal allocation	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	Cash crops	Cash crops	Mission work	Subsistence	Council work	Subsistence	Church and rest
Total man-days	714	716	717	716	708	707	712
Clearing	0.8	0.6	0.6	0.6	0.3	0.7	0.1
Subsistence gardening - plant, maintain	1.1	1.1	1.0	1.0	0.6	1.2	0.4
- harvest	0.9	1.0	0.8	0.9	0.8	1.1	0.9
Fishing, hunting, gathering	0.2	0.3	0.3	0.4	0.2	0.4	0.2
Sago-making	<0.1	0.1	0.1	<0.1	-	-	-
Other subsistence activities	0.2	0.2	0.3	0.3	0.3	0.2	0.4
Household	0.6	0.9	0.7	0.8	0.8	0.7	0.8
Social obligations	0.5	0.3	0.2	0.2	0.8	0.7	0.6
Cash cropping	0.2	0.2	0.3	0.2	0.3	0.2	0.1
Paid work	0.3	0.2	0.3	0.2	0.3	0.1	<0.1
Marketing - subsistence crops	-	-	-	0.2	-	-	-
Council work	0.2	<0.1	0.2	0.2	0.4	-	-
Church work	<0.1	-	0.2	-	-	-	-
Church services	0.3	<0.1	0.2	-	0.3	0.2	1.6
Other external agencies	0.3	<0.1	0.3	0.2	0.5	0.2	-
Sickness	<0.1	0.2	0.2	0.1	0.2	<0.1	-
Miscellaneous	0.1	0.1	<0.1	0.2	0.1	-	0.2
Total	6.1	5.8	5.6	5.7	6.0	6.0	5.6

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81 Waddell & Krinks E-4,5 (1964-1965) 1968 0223 Orokaiva 0223

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(ii) The daily routine and duration of activities. As suggested above, both the duration of an individual activity and the time at which it occurs within a given day may have some bearing on the broader patterns of activity. Williams (1930:21-31) describes an individual as characteristically undertaking several tasks within a single day, garden work normally being completed by midday. Table 6:10 reveals the need for modifying this view. The mid-point of most activities falls within the 1100 to 1400 period, and of the 19 extra-village subsistence tasks 13 have a mid-point falling after 1200. The tendency is to leave for the gardens in early or mid-morning, returning to the village in mid-afternoon. In garden work several tasks are normally carried out during a single visit, food being harvested last.

Of the 13 activities with a mean duration exceeding 5.0 hours only 4 - clearing, planting yams, sago-making and mourning - are associated with the subsistence sector. Of the others, 6 concern the marketing of crops, both subsistence and cash, and 1 is paid work. The subsistence tasks occur infrequently while the cash-producing ones are a regular feature of a commercial economy. While the total time devoted to cash-producing activities in Sivepe is small, it would appear disproportionately disruptive of a subsistence routine characterised by the daily pursuit of a large number of tasks of short duration. Significantly, in terms of total time expended, the two most burdensome cash cropping tasks are processing coffee and harvesting rubber. The mid-point of both these occurs early in the morning (0941 and 0838 respectively) and since the activities are of short duration the intention is apparently to complete them before starting the daily subsistence routine.

While the time devoted to cash-producing activities, both in total and proportionately, is slight, the characteristics of their occurrence and duration suggest that areas of potential or actual 'stress' may already exist in terms of the juxtaposition of subsistence and external sectors at this basic level of work organisation.

The allocation of time within individual activities

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In a community practising shifting cultivation, where all movement is by foot and all goods are carried on the back, travelling comprises a major component of activity time, therefore significantly affecting the level of productivity. This fact is clearly recognised by the Orokaiva and partially explains village movements. With increasing commercialisation of the economy, the problem of the journey to work becomes more serious on account of the greater volume of goods being handled and increased level of activity.

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One of the stated aims behind Sivepe's projected move was to be sited on an improved road being built to Sasembata in order that

[TEXT CONTINUED ON PAGE 109]

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Table 4:10

Rivers: the mean duration and mid-point of activities
(hours)

Activity		Duration	Standard deviation	Time of mid-point	Standard deviation
Clearing		5.2	2.2	1210	1.6
Fencing		3.4	2.8	1055	1.7
Taro	- plant	3.6	2.0	1152	2.4
	maintain	3.6	2.0	1201	1.9
	harvest	2.5	1.4	1253	2.0
	market	6.0	2.2	0930	0.5
Sweet potato	- plant	2.3	1.4	1234	2.9
	maintain	1.9	0.8	1053	0.4
	harvest	2.6	1.3	1253	1.8
	market	6.4	2.1	1041	2.7
Yam	- plant	5.2	2.5	1155	0.5
	maintain	3.8	1.7	1321	2.6
	harvest	4.6	2.4	1218	1.7
	market	5.3	-	1115	-
Minor crops	- plant	1.4	1.3	1404	2.8
	maintain	2.3	2.0	1349	2.6
	harvest	2.0	1.6	1302	2.5
	market	5.5	2.1	1048	2.7
Fishing		3.8	1.5	1201	3.9
Hunting		4.2	2.5	1355	4.3
Gathering		1.8	1.9	1410	3.5
Rope-making		7.7	3.1	1256	1.5
Preparation of tools and equipment		2.2	2.1	1307	3.7
Construction		3.9	2.9	1155	2.9
Coffee	- plant	2.8	0.5	1530	0.8
	maintain	4.1	1.1	1108	0.6
	harvest	4.1	2.2	1221	2.2
	process	2.6	1.6	0941	2.1
	market	9.7	1.2	1215	0.4
Cocoa	- plant	2.0	0.8	0945	2.3
	maintain	0.8	-	-	-
Rubber	- plant	4.3	1.5	1145	-
	harvest	2.4	1.1	0838	1.5
	market	5.1	1.5	1100	0.2
Paid work		8.3	2.8	1149	1.2
Washing		0.7	0.5	1047	2.4
Cooking		1.6	0.9	1516	2.8
Collecting firewood		1.2	0.9	1407	2.8
Social obligations					
	- marriage	2.7	0.4	1343	0.1
	death	7.6	4.4	1505	7.2
	other	4.7	2.2	1505	4.2
	visits	4.1	3.6	1336	3.3
Sick	- personal	2.8	2.5	1040	1.8
	care of	1.9	0.9	1001	1.7
Purchasing		4.7	3.2	1253	2.7
Council work		1.4	2.0	0920	2.7
Meetings		5.1	3.0	1200	2.2
Church work		5.3	1.7	1122	1.0
Church services		3.5	2.4	1001	3.0
Recreation		3.7	2.3	1532	4.2
Other		4.7	3.4	1200	2.7
Researchers		4.6	3.4	1301	2.5

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Table 6:14 illustrates the main features of the activity patterns of the six individuals. Linton devotes a large amount of time to such minor activities as hunting (81 per cent of other subsistence food production) and construction (84 per cent of other subsistence activities), the latter mainly on improvements and repairs to his house rather than major rebuilding. Mourning accounted for 6% per cent of the 4.3 hours spent on social obligations, an unusually high figure even for older people and a reflection of his allegiance to customary forms of behaviour.[1]

Table 6:14

Sivopa: activity patterns of selected individuals
(hours per man-week)

Name	Cash croppers				Non-cash croppers	
	Linton	Palmimas	Gorukari	Olga	Rodney Gill	Umbahapa
No. of weeks present	38.0	24.4	38.7	38.7	22.1	26.6
Percentage of survey days temporarily absent	7.4	9.5	1.1	1.1	17.9	1.5
Subsistence						
i. Productive						
Clearing	4.0	4.3	3.5	2.7	3.0	6.3
Subsistence gardening	13.7	15.3	17.9	18.7	2.5	12.5
Other subsistence food production	8.0	9.1	1.4	0.3	5.2	1.2
Other subsistence activities	5.1	2.3	0.5	0.2	3.1	2.9
Household	0.9	1.0	12.5	13.0	0.4	0.5
ii. Non-productive						
Social obligations	4.3	5.9	3.1	3.1	6.9	1.9
Exomal						
i. Productive						
Cash cropping	3.1	5.9	1.7	1.3	0.4	-
Paid work	4.4	-	-	-	8.6	-
ii. Non-productive						
Exomal agencies	7.2	5.6	6.4	5.9	6.0	3.3
Sickness	0.8	0.9	1.4	0.5	1.3	0.7
Other	1.4	0.7	0.6	-	6.4	-
Total	42.9	51.0	49.0	45.8	43.7	29.4
Percentage of total time spent in						
Productive activities	74	74	76	79	53	80
Subsistence activities	69	74	79	83	48	86

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1 During the year an age-mate from Soho clan committed suicide in Port Moresby and Linton acted as one of the chief mourners.

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The 7.5 hours spent by Linton in cash-producing activities far exceeds the sample average and the extent of his commercial interests is reflected in his household having the largest monetary assets of the eleven surveyed and the fourth highest cash income;[1] 3.1 hours were devoted to cash cropping, almost exclusively to coffee, and 4.4 hours to paid work. The latter, building the house for Saiho hospital, was confined entirely to period III and so outside the cash cropping season. He, and another member of the sample, had to provide all materials and on completion of the house would be paid $50; however, it was still unfinished at the end of the survey. Opportunities of this type often occur and in spite of the distance to Saiho and the need to supply their own building materials, the informal nature of the contract and being able to reside in the village throughout more than compensate and account for the popularity of the work, particularly outside the cash cropping season.

Linton's concern with cash producing activities is paralleled by his involvement with the external agencies. Over half of the 7.2 hours per week is spent at church services, in maintenance work on the mission station and in helping the Papuan priest with his food gardens. In fact, proportionately, Linton devotes no more time to productive tasks than the sample as a whole does although he was absent from the village on only 7.4 per cent of survey days, each occasion being of short duration.

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Palminus. Like Linton, Palminus is a married man with five children, all at or below school age. A confirmed cash cropper with the largest individual holding of coffee in the sample (246 trees), he is also one of the 'new' generation with a firm liking for non-traditional forms of entertainment, including gambling, guitar music, parties and alcohol. Aged 34 years, he received four years' schooling and has spent a further four and a half years in unskilled and semi-skilled employment in Port Moresby, Keremа and elsewhere in the Northern District.

With a mean activity week of 51.0 hours Palminus is only slightly less busy than Linton. The general pattern in which this time is allocated approximates that of the sample as a whole, with a consistently higher level of activity being recorded in most categories.

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1 See Tables 4:5 and 10:10.

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Although without access to a shotgun, Palminus spends even more time in hunting than Linton (98 per cent of the 9.1 hours devoted to other subsistence food production). Guitar parties account for over half the time spent on social obligations and, while they normally appeal primarily to unattached youths, Palminus is attracted to them by the liquor (including beer, gin, rum and methylated spirits) often on sale.

The time spent in coffee production, 5.9 hours per week, is a particularly high figure when it is considered that this work was confined to little more than one-third of the total survey period. When, during the latter part of the dry season, Palminus had completed harvesting his own coffee he agreed to pick in the garden of a member of Seho clan. Although he did no paid work while resident in the village, over half of the 9.8 per cent of survey days on which he was absent was spent at Sangara constructing a house for a settler, with a view to receiving a cash payment for it at the end.

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Gorukari. Gorukari is aged 32 years and a married woman with five children, all under the age of 12 years. The two eldest attend Sasembata school, one, a six year old, refuses to go, and the others are below school age, one being still at the breast. Although she received a few months' schooling at Sasembata, her experience of Western culture is slight and in this respect she is typical of the women. Her husband is not unlike Palminus in that he is industrious, interested in cash cropping but not a particularly influential person.

On account of the size of her family and age of her children, Gorukari has a heavy burden of basic subsistence gardening and household tasks and while her eldest daughter, aged 11 years, could be of considerable assistance, regular attendance at school prevents this. In addition, Gorukari's domestic obligations often extend to the care of her husband's father and mother plus two children who reside next door. The father is over 55 years and the mother only a little younger and both are frequently sick.[1]

With a mean activity week of 49.0 hours, 62 per cent of her time is spent on subsistence gardening and household tasks, taro gardening predominating in the former and cooking in the latter. This figure contrasts with the sample mean of 46 per cent of total

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1 He was sick, or absent through sickness, on 30 per cent of potential survey days and she on 26 per cent.

time. In effect Gorukari is concerned essentially with producing and preparing for consumption the staple food, taro.

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The figure of 49.0 hours per week is somewhat misleading in the case of such a woman where so much time is taken up with care of children and minor household tasks which do not lend themselves to quantitative analysis. In following her movements through a single day it was found that, between rising at 0810 and finishing the evening meal at 1845, Gorukari spent only 1 hour 50 min. actually resting or eating. She was therefore active for a total of 10.8 hours compared with an 'activity' figure of 8.1 hours. From 1845 until 2220, when she retired, she sat and talked with her husband. Assuming this to have been a typical day, a woman such as Gorukari has an activity week of about 75 hours.

Social obligations account for 3.1 hours per week, 56 per cent spent in visiting. Not only is this substantially less than the figures for Linton and Palmimus but it reflects a somewhat different emphasis. While the role of women in ceremonial life is subsidiary to that of the men, they are often responsible for the more informal exchanges which are a characteristic feature of Orokaiva life and, since the society is typically a patrivirilocal one, it is to be expected that the women spend a significant amount of time visiting their kin.

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Gorukari's primary concern with food gardening and household tasks is expressed in the general distribution of her time. In particular she is more concerned with subsistence activities than the sample in general, these accounting for 79 per cent of her total activity time, while she also places greater stress on productive tasks. These facts are manifested in both the infrequency and short duration of her absences from the village which amount to only 1.1 per cent of potential survey days.

Oiga. Oiga is aged about 46 years and the wife of the most progressive of the older generation - a man with extensive non-traditional experience. They have eight children, the eldest of whom resides, with his family, next door. The two youngest, girls aged 10 and 14 years, attend Sasembata school and still live at home. All but one of the other children are married and normally reside elsewhere.

Subsistence gardening and household tasks dominate Oiga's activities to an even greater extent than they do Gorukari's, accounting for 89 per cent of total time in an activity

512 461 week of 45.8 hours. Likewise 68 per cent of the 18.7 hours spent in subsistence gardening is confined to taro cultivation and 99 per cent of the 13.0 hours on household tasks to cooking. Apart from clearing, in which women are responsible for 'sweeping' up the debris and much of the secondary burning, the time Olga devotes to the other productive subsistence activities is minimal.

Sixty-four per cent of the time spent on social obligations comprises visiting, an even greater proportion than for Gorukari although Olga did not change her place of residence at marriage.[1] One of her married daughters lives in a village about half an hour's walk away and, with her husband away in the police force in Port Moresby, there is a great deal of inter-visiting.

Although without cash crops of his own, Olga's husband worked some coffee belonging to their eldest son during the year, the son in turn confining his cash cropping to the rubber. Olga assisted her husband largely in pulping and drying the parchment and in its subsequent marketing. However, her involvement with the external sector of the economy is largely confined to the external agencies, particularly the church. On account of her household responsibilities she is seldom away from the village for more than a night or two at a time, while the emphasis placed on subsistence activities (83 per cent of her total activity time) results in both her and Gorukari's spending more time on them than either Linton or Palminus, in spite of the latter having longer activity weeks. Finally Olga spends less time on non-productive tasks - only 21 per cent compared with 36 per cent in the case of the two men.

Rodney Gill. Rodney Gill is Gorukari's husband's brother and, at the age of 18 years, the eldest child still residing with his parents. While both parents are often disabled through sickness and rely on the support of Gorukari and her husband, Rodney Gill's behaviour pattern does not suggest any tendency to assume domestic responsibilities. With a mean activity week of 43.7 hours he spends only 48 per cent of his time in subsistence activities and 53 per cent in productive work. Typically, adolescent aspirations are directed to wage employment and many young men leave the village. Of the six males in the 15 to 19 age group at the beginning of the year, one joined DASF at Popondetta

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[1] She is a member of Arehu lineage, Jegare clan, and her husband a member of Berekipa lineage of the same clan. Intra-clan marriages are not uncommon, a contributing factor in this instance being that Olga is believed to be descended from a Togahau war captive (Rimoldi: personal communication).

and two walked over the Owen Stanleys to Port Moresby in search of work. Two of the remaining three are still at school at Sasembata, leaving only Rodney Gill at home. The fact that he has not already left probably reflects some latent sense of obligation towards his parents. 512 461

After completing standard 4 at Sasembata, Rodney Gill went to stay with his married sister near Port Moresby for several months but he has never been employed outside the village. Nevertheless, he is frequently away for several weeks at a time, particularly at Sangara. Even during the survey period he was absent on 17.9 per cent of potential survey days, or 34 days in all. During 32 of these he was on an unbroken visit to Sangara assisting a settler construct a house, for which he received $8 and his keep.

Two months after returning to Sivepe he obtained work at Sasembata mission station, helping to erect new class-rooms for a salary of 80c per month. Disillusioned by the small wage he left after three months; nevertheless this work was the most important category in his total activity pattern. Since his parents have no cash crops and Rodney Gill has made no attempt to establish his own, the little cash cropping he does, 0.4 hours per week, is confined to assisting his brother Cecil King with his coffee. [464] [465]

Rodney Gill spends only 32 per cent of his time on productive subsistence tasks, compared with the sample mean of 65 per cent, and his contribution to subsistence gardening is particularly slight. Like other youths, he prefers to spend his time hunting and fishing, and for him other subsistence food production is the main subsistence activity. During the survey Rodney Gill rebuilt, almost single-handed, the single men's house in which he sleeps and also gave Cecil considerable assistance in rebuilding his house. [883]

In general the productive tasks available in the village which appeal most to young men are those which occur irregularly or which can be done on impulse, have an important recreational aspect and have associated with them obvious shows of skill or strength. Their most popular leisure pursuits are parties and dancing to guitars. Rodney Gill spends more time fulfilling social obligations than any of the other individuals considered - 8.9 hours a week - yet 75 per cent of this was attending parties. Although most youths seldom have much money to spend on food and alcohol at these gatherings, the guitar music, singing and dancing pursued unrelentingly through the night appeal to them. Modelled as they are on expatriate festivities, and given an element of inter-village rivalry with 517 [461] [533] [535] [177] [578]

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competing guitar groups, parties also provide a means of making contact with the opposite sex.

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Apart from attendance at church services, meetings of all kinds attract the young men and account for 22 per cent of the time spent with the external agencies. Rodney Gill also frequently attends Sasembata clinic, undoubtedly being attracted by the young people working there. Finally, he spends the very substantial amount of 6.4 hours on other activities, 44 per cent on recreations such as football, and 47 per cent in rendering assistance of various kinds to the researcher.

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In general, while Rodney Gill has an above average activity week, the way in which he allocates this time manifests a general lack of concern with or involvement in the village economy. His interest is largely confined to pursuits which have an important recreational value or where his participation is passive, as in church services or meetings. Such behaviour is not untypical of the young unmarried men and while it partly reflects their not yet having assumed adult responsibilities it is also associated with a sense of malaise with village life.

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Umbahapa. Umbahapa is over 55 years of age and the oldest resident of Sivepe. Apart from age, his activities are further restricted by being a widower and partially lame in one leg. Although living alone and cultivating his own gardens, he depends to a great extent on a married daughter resident next door, particularly for his meals and for harvesting produce from his gardens; a younger sister, Linton's mother, also helps him. Without cash crops, and his non-traditional experience restricted to acting as a war-time carrier between Kokoda and the coast, Umbahapa is of necessity a member of the 'old' generation. He has no cash income and does not participate in any cash-producing activities.

Umbahapa's activity week comprises only 29.4 hours, his efforts being directed almost exclusively to the subsistence sector. Disregarding household tasks (since his daughter prepares most of his food for him), his productive efforts are possibly adequate to meet his food requirements, although none of his gardens were in production when surveyed. The large amount of time expended on clearing (8.3 hours) is probably explained by Umbahapa's labour being less productive than a younger person's. The total of 12.5 hours spent on subsistence gardening approximates to the sample mean although the distribution of this

887
512 time is somewhat different, greater emphasis being laid on the planting of food crops, suggesting that their harvesting is primarily the concern of his daughter. Although he obtained considerable assistance in rebuilding his house during the survey, Umbahapa spent 3.9 hours per week on construction but all other productive tasks are of little significance.

Social obligations are no longer of much concern to Umbahapa, restricted as he is by his bad leg and increasing age. They account for only 1.9 hours a week and among them mourning predominates. These apart, he is a frequent church attender and periodically visits the clinic in connection with his leg. However, Umbahapa's behaviour shows he is no longer a fully active member of society; his concern is with meeting his subsistence requirements and whether he successfully achieves these on the basis of his efforts alone is questionable. Umbahapa is very dependent on the 'sympathy group' since it is his kinsmen and the community as a whole who have assumed responsibility for his well-being.

8: Waddell & Krinks E-4,5 (1964-1965) 1968 QJ23 Orokaiva QJ23

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Patterns of activity and seasonal influences

An average of 43.5 hours per man-week are spent on all activities.[1] However, the general level of activity and distribution of time varies widely from week to week and also, in some cases, seasonally (see Table 7:3 and Figures 7:2 and 7:3).

(a) The subsistence sector

241
[433]

(i) Food production. Subsistence gardening is the most important category of activity, accounting for an average of almost 12 hours per man-week. Over half of this time is devoted to taro cultivation, except during the dry season when planting and, in particular, harvesting of taro are reduced, although maintenance increases. Over the year as a whole, the time spent on taro is almost equally divided between planting, weeding and harvesting. For the other crops, however, little time is spent on weeding and most attention is given to harvesting. This is true of sweet potato and yam, which are usually grown in specialised gardens, as well as of minor crops such as corn, cassava and banana which are usually interplanted with taro. Yams are planted late in the year and harvested in the dry season. Sweet potato is planted both in the dry and early in the wet season, the latter being the main harvesting period, before taro is in full production. Over one-fifth of the 2.1 hours per week spent on minor crops involves coconuts, another fifth bananas and 18 per cent sugar-cane. Eleven per cent is devoted to pitpit but this crop accounts for one-quarter of the total during the wet season. Cultivation of plants that provide edible leaves (ina) accounts for 9 per cent of the time spent on minor crops over the survey, but 29 per cent in the dry season. Corn and pumpkin account for about 5 per cent each.

[824]

Clearing of gardens takes place throughout the year, most in dry spells at the onset of the wet season when newly planted crops will benefit from the rain. In February and March 1964, during the wet season, there was an unusually high rate of clearing after a flood in January destroyed several gardens containing maturing crops. During period II (the dry season), the rate of clearing was comparatively slow, partly because the season was abnormally wet and partly because of the large amount of time invested in fencing, which is necessary particularly at this time since feral pigs from more remote bush areas tend to invade the gardens for food. Clearly, the protection of growing crops has a higher priority than the establishment of new gardens.

[133]

[417]

During the dry season, food-producing activities other than gardening increase in importance, and sago-making is concentrated

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[1] See, however, the adjustment for additional data, pp.136, 138.

[TEXT CONTINUED ON PAGE 133]

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Table 7:3

Females: mean time spent per man-week on all activities in each recording period
(hours per man-week)

Group	Activity		Period I	Period II	Period III	Survey
Clearing			2.9	2.0	3.5	2.8
Subsistence gardening	Pruning		0.6	2.3	0.2	0.9
	Taro	- plant	2.4	1.8	2.6	2.3
		maintain	2.1	2.6	2.2	2.2
		harvest	2.9	0.9	1.6	2.1
	Sweet potato	- plant	0.1	0.5	0.5	0.3
		maintain	-	0.2	0.2	0.1
		harvest	0.5	0.8	1.2	0.8
	Yam	- plant	0.2	-	0.3	0.2
		maintain	-	-	0.2	0.1
		harvest	0.1	1.3	-	0.5
	Minor crops	- plant	0.3	0.4	0.5	0.3
		maintain	-	-	0.3	0.1
		harvest	2.0	1.3	1.3	1.7
	Harvesting crops and other products		-	0.4	0.7	0.3
	Total		11.2	12.7	11.9	11.7
Other subsistence food production	Fishing		4.5	1.4	4.6	3.0
	Hunting		1.5	3.3	2.5	2.0
	Gathering		0.2	0.9	0.7	0.5
	Game-raising		0.1	1.3	-	1.1
	Total		6.3	6.7	7.8	7.5
Other subsistence activities	Preparation of tools and equipment		1.3	1.3	1.6	1.4
	Construction		1.7	4.8	0.3	1.0
	Total		3.0	6.1	2.0	2.4
Household	Washing		1.2	1.7	1.6	1.4
	Cooking		0.6	0.2	5.9	2.2
	Collection firewood		0.1	0.4	0.2	0.1
	Total		1.9	2.3	7.7	3.7
Social obligations	Marriage		-	-	-	-
	Death		0.4	-	-	0.2
	Other		2.7	0.3	1.9	2.0
	Visiting		1.4	1.3	2.4	2.0
	Total		4.4	1.7	4.4	4.4
Cash cropping	Coffee	- plant	-	0.2	-	0.1
		maintain	0.3	0.2	0.3	0.2
		harvest	0.2	0.2	-	0.1
		process	0.1	0.1	-	0.1
	Cocoa	- maintain	0.1	-	-	-
	Copra	- maintain	-	-	0.2	-
		harvest	-	0.7	-	0.1
		process	-	0.6	-	0.1
		market	-	-	-	-
	Total		0.6	2.0	0.7	1.0
Paid work			2.6	0.3	2.0	2.0
	Entrepreneurial		0.7	0.5	1.0	0.7
	Total		3.1	0.8	3.0	2.7
Sick	Personal		0.3	0.6	1.1	0.6
	Care of sick		0.7	1.3	1.0	1.0
	Total		1.1	1.9	2.1	1.6
External agencies	Purchasing		0.7	0.7	0.8	0.7
	Council work		1.3	0.7	1.5	1.2
	Meetings		0.6	-	0.1	0.3
	Church work		0.1	-	0.3	0.1
	Church services		1.1	0.5	0.7	0.5
	Total		3.8	1.9	3.4	2.7
Miscellaneous	Recreation		0.5	0.3	0.5	0.5
	Other		1.1	0.9	0.8	1.0
	Researchers		0.1	-	-	0.1
	Total		1.7	1.3	1.4	1.5
Total - all groups			40.6	43.0	48.6	43.5

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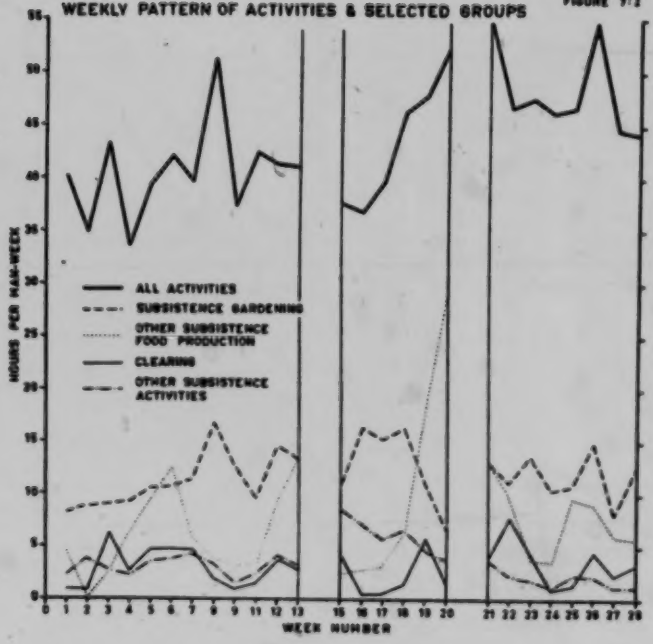
INONDA
WEEKLY PATTERN OF ACTIVITIES & SELECTED GROUPS

FIGURE 7:2



towards the end of this season. Due to the intensive demands on labour for sago-making, men often spend all the daylight hours on this task, so that the average working day is longer than at other times, reaching 7.5 hours. The time spent on sago is at the expense of not only leisure but also of clearing, subsistence gardening, other subsistence activities and involvement with external agencies (particularly council work). Although sago-making is normally restricted to the dry season, in 1964 one household had to resort to sago near the end of the wet season, because the people concerned had spent several months late in 1963 at Saiho hospital and, on returning to Inonda, had no time to clear sufficient gardens to provide food throughout the wet season.

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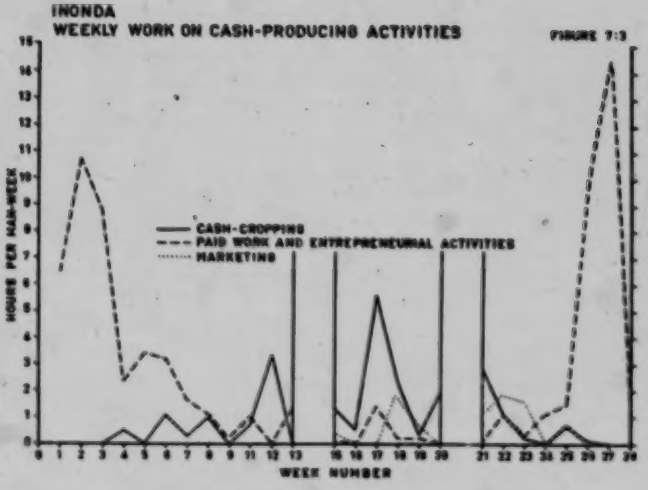

222 The gathering of forest plants receives more attention during
462 the dry season to compensate for lower garden production. The
262 increased dietary significance of such plants at this time is,
perhaps, understated in Table 7:3, since women often collect green
leaves beside paths while walking to or from other activities and
224 such gathering may not be recorded. In addition, a considerable
221 amount is gathered by children. Hunting also increases during the
[411] dry season, with the increased number of wild pigs. However, a
significant factor in 1964 was the acquisition of a shotgun in July
by the leading man (with financial assistance from others, who
thereby acquired rights of use). From this time, hunting to obtain
226 meat for both food and marketing increased, becoming most popular
221 during period III when marketing also was most frequent. Due to
the drop in water levels, the time devoted to fishing during the dry
season is much less than in the rest of the year, but over the year
as a whole, more time is spent in it than in any other single activity.

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(ii) Other subsistence activities. The other subsistence activities are construction of houses and other buildings and the preparation of tools and equipment such as spears, sleeping-mats and string bags. The latter activity occupies, on average, about 1.5 man-hours per week with no seasonal variation. Over one-third of this time is accounted for by women making string bags. More than one-quarter is spent, mostly by women, collecting and weaving pandanus leaves into mats and over one-tenth in sewing clothes. Men's tasks in this sphere include the making and repair of axe-handles, spears and fishing nets and the weaving of coconut-leaf baskets. House construction is carried out almost entirely by men, except for the preparation of roof-sheets from sago-palm leaves, in which women may assist, and it occupies about 2.0 man-hours a week. During periods I and II, several people were building houses on the new village site. For the most part, such activity was not intensive; some continued to live in the old village and from time to time worked on their new houses, while others built temporary houses on the new site and lived in these while erecting their permanent houses. Not all construction, however, was subsistence oriented. In July and early August the men spent 189.6 hours erecting the copra-drier and in period III the entrepreneur spent 3.2 hours on his new trade store. (Also in period III, 33.1 hours were spent building the chapel, but this was recorded as 'church work' and is included under 'external agencies' rather than 'construction'.) The amount of time shown as spent on construction of houses, garden shelters and the copra-drier is much higher than the time that would be spent on building in most years. This is due to the unusual circumstances during 1964 of the decision to build the copra-drier and the reconstruction of the village; normally, individuals might build new houses only once in five years. Thus, the annual rate of house-construction would be only about one-fifth of the 1964 rate.

[342]

The amount of time expended by individuals in household tasks - cooking, washing and collecting firewood - as shown in Table 7:3 - is understated. Owing to problems of observation during periods I and II when the village was on two sites, cooking was rarely recorded. As a rule, wives prepare two meals a day; breakfast requires 0.8 hours and the evening meal takes 1.5 hours on average. When a midday meal is prepared, the mean time taken is 1.0 hours. Thus, wives are likely to spend at least 2.3 hours a day in cooking, or 16.1 hours a week, and it is clear that cooking is the most time-consuming task for them. When the figures are calculated incorporating this average figure, the mean time spent by individuals on household tasks appears as 10.1 hours rather than 3.8 hours. (This does not include the important contribution made by children, particularly young girls, who, from the age of about five, fetch water and wash pots and, by the time they are about twelve, assist in preparing meals.)

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Table 7:4

Inconds: adjusted mean weekly activity over survey period
(Adjusted with additional data on household tasks)

Mean number of man-weeks	Hours per man-week	
	Household	Total
14.7	10.1	49.9

(b) The external sector

In total, subsistence activities, including household tasks as adjusted above and excluding construction oriented towards cash income, occupy 34.8 hours per person per week. Cash-producing activities - cash cropping, paid employment, entrepreneurial activities, marketing of game and construction of the copra-drier - together occupy 4.5 hours per person per week. Unlike most of the subsistence activities, not everyone engages in cash-producing activities. Some men did not obtain paid work during the survey period and there is only one man with the experience and confidence to operate as an entrepreneur. Women may assist husbands and kin in cash cropping and sell produce in the market on their own account but they do not engage in paid work (though some had, in the past, worked as domestic servants on a nearby plantation). However, taking the village data as a whole, an individual spends an average of 39.3 hours a week on productive activities in both the subsistence and the monetary sectors.

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(i) Cash cropping. The average time devoted to cash cropping is only 1.0 hours per man-week. Although the survey excluded much of the coffee harvesting and selling season, the figure would be only a little higher if these had been incorporated. Only one household harvested and processed coffee during the survey; if the other two households with mature trees had also done so at the same rate, the overall average time on cash cropping would be raised to 1.4 hours per man-week. The most intensive work was carried out on copra in the dry season, when harvesting and processing occupied a mean 1.3 hours per man-week over that period. Unfortunately, much of this time was wasted. When the drier was finished, it was decided that copra-making should be a communal project and the villagers spent a total of 82.6 hours, most of this in three days, collecting and splitting some 410 coconuts, laying out the flesh and maintaining a fire. On the fifth day, the fire was stoked with husks instead of wood and shells and the copra was spoiled by the thick smoke. The following week the women refused to assist the men for more than a few minutes, since their previous labour had been wasted. The men spent 10.8 hours harvesting more coconuts and assistance from the researchers saved them 1 hour in transporting

the nuts to the drier. The various stages of processing took up 12.4 man-hours and 7.5 man-hours were spent in bagging and selling the 75 lbs of copra. The entrepreneur sold the copra to the Motu Native Co-operative Society at Oro Bay and by getting a lift there and back he spent only 4.4 hours on what would have been a 10-hour journey by foot. The total input of labour on the second batch of copra was 30.7 man-hours and the total return was $2.32, or under 8c per man-hour. This return disregards establishment and maintenance costs; however, as the palms used had been planted for subsistence purposes and maintenance is rare, the additional costs were negligible. They would only become significant if people planted large numbers of trees specifically for copra. This was the intention of several men. As is shown on pp.292-3, the return to labour in copra production is higher than the normal return from casual labouring and during 1965, after the survey had ended, copra was made regularly by the villagers, including the four men who had obtained work in Popondetta. Assuming that the efficiency of harvesting and processing increased with experience, it seems likely that the cash returns also increased during 1965.

(ii) Other activities. Involvement with the external agencies takes an average of 3.2 hours per person per week. Most of this time is spent by women in cleaning the village area, defined as 'council work', which also includes a total of 42.5 hours spent by villagers in the first week paying taxes to the council. Church services occupy 0.9 hours a week; the entrepreneur holds a half-hour weekly service in the chapel and sometimes people go to larger services at Ijika church, particularly for major church festivals and confirmation ceremonies. People from the neighbouring villages of Hosou and Habemo often attend the chapel services, which are also a social occasion, with people in their best clothes and even gambling afterwards. Perhaps mainly for this reason, non-Christians occasionally attend the services as 'hearers' (in the mission terminology). Little time is spent on purchasing goods in trade stores. The most regularly used stores are the one in the village, those at Ijika and the settlement blocks (which are about one hour's walk from Inonda), and those in Popondetta - particularly Oro Ltd's store and stores owned by Chinese - about 2.75 hour's walk away. Despite the distance to Popondetta, it is frequently visited, often by getting a lift from a passing truck (or, during the survey, from the researchers). Little time was spent in meetings: 57.6 man-hours were spent on the day of polling for the House of Assembly and most of the rest was expended by the entrepreneur in discussions with administrative and agricultural personnel in Popondetta. In addition, one woman attended the Hohota Women's Club meetings during period I before the club ceased functioning.

Social obligations involve individuals for an average of 4.2 hours per week. During 1964 in Inonda, only 0.2 hours per week (76 hours in all) were related to life crises and these were almost

entirely mourning and funeral feasts. The bulk of the time is evenly divided between more or less formal social occasions and visits to kin and friends. The formal occasions include traditional feasts to mark the end of a dispute, to distribute the first fruits of a garden planted with the help of others, to mark the birth of a first child and to give or receive returns for feasts held previously. They also include non-traditional celebrations such as parties to mark birthdays, the opening of a new school and the saint's day of the local church. Such occasions usually occupy at least half a day and continue until midnight or dawn, whereas visits, as recorded here, are generally of only a few hours' duration. Visits may be made simply to see a friend or kinsman or they may be specifically to make or receive a gift, to return a borrowed article such as a gun, lamp or sago-beater or to discuss matters of common concern such as a projected feast. Visits occurred more during periods II and III but feasts and other formal occasions occupied more time during the latter part of the wet season, when they amounted to 3.1 hours per person per week compared with 0.3 hours per week in the dry and 1.9 hours per week at the beginning of the wet.

Among other activities, the most frequent include seeking employment in Popondetta, journeys impeded by flooded streams or rain and meeting kin or friends returning from visits. The time devoted to them varies greatly from week to week. For instance, after the road-building work near the village ceased early in 1964, little time was spent in gambling or seeking paid work.

The time shown in Table 7:3 as occupied by sickness represents visits to the aid post for personal sickness, care of the sick and attendance at the fortnightly infant welfare clinic.[1] As noted, the incidence of sickness tends to be greater during wet weather when malaria and epidemics of influenza may occur.[2]

Individuals devote a total of 10.5 hours per week to non-productive activities. However, the distinction between these and the productive activities is not clear cut. For instance, part of the labour input in gardening may be designed to ensure a surplus of certain foodstuffs to meet specific social obligations. Similarly, visits to a kinsman may be undertaken in order to organise production and other aspects of a future feast, to assist in time of need or to make or receive a gift of food.

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[1] In addition to this time, individuals were inactive through sickness for an average of half a day a week (see Tables 7:1 and 7:2).

[2] During 1964 there were two influenza epidemics, in April and December.

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The organisation of work by households

There is very little difference between households in the total amount of time spent each man-week on all the different activities. With the exception of the widower in household 19, the range is from only 2.2 hours below to 2.9 hours above the mean of 43.5 hours per man-week. However, there are considerable differences between households in the proportions of labour input allocated to the various activities (see Tables 7:5 and 7:6). Most spend roughly comparable proportions of their time in garden clearance. Households 19 and 24 are exceptions. The former, a widower, did a considerable amount of clearing on behalf of the widow in household 18. The couple in household 24 likewise gave help in clearing and planting, to household 23 in particular.

[470]

There are wider differences in the time allocated to subsistence gardening. Households 18 and 24 spend most time in gardening, followed by household 19. Although this may partly reflect a greater amount of time required by the older people comprising these households to achieve subsistence, it is significant that 18 and 24 are also pre-eminent in the amount of garden produce disposed of each week and that the widower in household 19 puts a greater proportion of his working time than anyone else into assisting others (see Table 11:8). The head of household 18 is a widow (successively of three Inonda men) and has only permissive rights to Inonda lands. Household 24 is in a somewhat similar position, being resident because two daughters are married to Inonda men, and it seems likely that both these households strengthen their positions in the village through generosity towards others.[1] In return for his assistance, the widower receives most of his food from others and so spends little time in cooking. Three households devote less than the average amount of time to gardening. Household 23 instead spends more than the average in entrepreneurial activities and in activities connected with the external agencies; household 21 also devotes considerable time to the latter, including purchasing and church services. Apart from the widower, household 17 has the shortest working week.

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The three households spending most time in gardening spend least in the other food-producing activities - fishing, hunting, gathering of forest products and sago-making. In activities demanding agility or stamina younger people are naturally more prominent. The head of household 20 is the best marksman and hunts frequently. He also helped a cross-cousin in sago-making and his wife often fishes. In fact, this household spends more time in this class of activity than

[1] Crocombe (1966:78) considers that this was the basic motive for a birthday party given by the head of household 24 in 1962.

(TEXT CONTINUED ON PAGE 143)

Table 7:5

Female activity patterns of households over the whole survey period
(hours per man-week)

Household no.	16*	17*	18	19	20	21*	22	23*	24	All households Total	All households Mean	Cash cropping households Total	Cash cropping households Mean	Non-cash cropping households Total	Non-cash cropping households Mean
No. of adults	4	3	2	1	3	2	2	2	2	21		11		10	
No. of man-weeks recorded	71.4	53.9	36.1	36.0	51.6	45.4	19.1	40.7	30.1	381.4		230.4		161.0	
										(hrs)		(hrs)		(hrs)	
Clearing	2.2	2.5	2.0	4.8	2.7	2.3	1.9	3.5	4.9	1,107.9	2.9	546.2	2.6	561.7	3.4
Subsistence gardening	11.7	10.0	16.3	13.5	11.3	8.8	12.2	9.8	16.2	4,479.5	11.7	2,263.0	10.3	2,216.5	13.8
Other subsistence food production	7.9	8.9	4.7	4.4	12.0	8.1	3.4	7.1	4.3	2,669.5	7.3	1,723.8	7.8	1,145.7	7.1
Other subsistence activities	2.7	2.8	3.2	3.9	3.7	3.4	0.8	3.3	2.6	1,292.7	3.4	751.5	3.4	541.2	3.4
Cash cropping	2.3	0.4	0.8	0.2	0.2	2.1	-	1.0	-	369.5	1.0	329.3	1.5	36.2	0.2
Paid work and entrepreneur	1.5	2.6	-	-	2.5	1.4	12.2	3.7	1.8	1,042.6	2.7	591.7	2.7	450.9	2.8
Household	3.8	4.1	4.8	0.9	4.8	4.7	1.8	4.9	4.2	1,499.5	3.8	944.4	4.3	555.1	3.2
Social obligations	4.6	4.2	0.1	2.2	3.6	5.5	4.3	2.7	4.2	1,395.7	4.2	944.8	4.3	681.1	4.0
Sick	2.7	2.4	1.4	0.1	1.5	2.0	-	1.3	0.1	398.5	1.6	475.4	2.2	123.1	0.8
External agencies	3.6	2.9	2.8	1.0	2.7	4.7	1.4	4.8	2.8	1,241.6	3.2	864.6	3.9	377.0	2.3
Other	1.3	1.3	0.8	0.4	2.6	1.6	2.8	1.7	0.7	367.2	1.3	312.5	1.4	254.8	1.6
Total	44.3	41.3	42.1	35.6	44.4	44.4	44.4	45.8	43.1	16,420.3	43.5	9,747.0	44.4	6,853.3	43.0
Mean length of active day**	6.6	6.1	6.7	5.1	6.8	6.7	6.7	6.9	6.6						

* Cash cropping households.
** Excluding days sick.

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Table 7:6

Inonda: activity patterns of households (adjusted)[#]

Household	Number of man-weeks	Total hours		Hours per man-week	
		Household tasks	Total	Household tasks	Total
16*	71.4	669.1	3,559.4	9.4	49.8
17*	53.9	571.2	2,574.0	10.6	47.8
18	26.1	388.7	1,384.4	14.9	53.0
19	26.0	22.5	873.7	0.9	33.6
20	51.6	521.0	2,741.1	10.1	53.1
21*	45.4	518.9	2,414.5	11.4	53.2
22	19.1	148.1	976.2	7.8	51.1
23*	49.7	583.3	2,617.2	11.7	52.7
24	38.1	436.7	1,880.1	11.5	49.3
Total	381.4	3,859.5	19,020.6	10.1	49.9
Cash croppers	220.4	2,342.5	11,165.1	10.6	50.7
Non-cash croppers	161.0	1,517.0	7,855.5	9.4	48.8

[#] Table 7:6 shows the relevant parts of Tables 7:3 and 7:5 recalculated taking the adjusted average figure for household tasks into account. For an explanation see p.136.
* Cash cropping households.

in gardening. Although the leading man is one of the most successful hunters, his household spends a little under the average amount of time on these other food-producing activities, and only a small amount of time is devoted to sago-making in comparison with several other households - notably 16, 17 and 21.

The remaining subsistence activities are the preparation of tools and equipment, and construction. As household 22 did not build a house on the new village site it spent little time on this category of activity. In contrast, the men in households 19 and 21 helped the widow build her house, as well as joining the other men in building the copra-drier, and these households have the greatest weekly input of labour into these activities. There is little difference between the levels of the other households.

Only three households spent one or more hours a week on cash cropping. Two of these have mature coffee trees and the third is establishing a new coffee garden. In addition to looking after their own coffee, members of household 16 assisted kinsmen in Ijika and on the settlement block in establishing and maintaining coffee and cocoa trees. The head of this household is the only member of the OCCS in Inonda. While most of the time spent on cash crops by households 16 and 21 was on coffee, much was on the copra project,

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and this latter accounted for most of the time household 23 devoted to cash cropping. It is interesting that household 17, which owns 107 mature coffee trees, spent less time on them during the survey than household 18, a non-cash cropping household, spent in assisting others with their coffee. The head of household 17 expressed dissatisfaction with his returns from coffee and did not fully harvest the yield of his trees, although the price was double that of the previous year. The small amounts of labour spent in cash cropping by other households result from their assisting owners of coffee trees and collecting and opening coconuts in the communal copra project. Although the inputs of labour by non-cash cropping households are small, even those of households 16 and 21 amount to only 5 per cent of their total activity time. Apart from the widow and widower, these same household spend the lowest proportion (both 3 per cent) of their time in paid work.

All the households spent some time in cash-producing activities, but the widow and widower only assisted others in cash cropping and the heads of households 22 and 24[1] worked only in paid employment. For the Jego'undi man in household 22, paid work was the single most time-consuming activity, exceeding subsistence gardening in spite of his household spending more time in gardening than the average, and it is worth noting that this household entered least into subsistence transactions but disposed of more than average amounts of storebought foods.[2] It seems likely that in 1964 the absences of the household head in paid work and of the whole household on a two-week fishing expedition required unusually intensive work in gardening at other times to ensure subsistence. This household receives no labour assistance from others, whereas the entrepreneur's household (23), which devotes the second highest amount of time weekly to cash-producing activities and the second lowest amount to gardening, receives considerable assistance through labour services[3] and this household is prominent in transactions of subsistence as well as of storebought produce. These two households have the lowest cultivated area per household member in the village. It appears that those who engaged in full-time wage employment for more than two or three consecutive weeks find it difficult to maintain their gardens and therefore meet their traditional obligations in the

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[1] The household head has no rights to land for cash cropping in Inonda. See p.60.

[2] See Tables 11:8 and 11:9.

[3] The difference may be due to the fact that the head of household 23 is the head of the dominant lineage, the most educated, experienced and prestigious man in the village. The head of household 22, on the other hand, was the sole adult member of his lineage and a marginal member of the village. He left Inonda during the survey.

592 exchange network and they must use cash and storebought goods to
512 compensate for this.

[461] Few households differ greatly from the average in the amount of
[462] time they devote to household tasks. The widower, like most men, seldom cooked, whereas in household 18 the widow's son was rarely present and the mean weekly time spent in household tasks is strongly influenced by the time spent in cooking by the widow. Household 16 appears to spend less than the average time since it contains two men as well as the wife's mother, who does not cook as often as her daughter. The small amount of time spent by household 22 is probably due to the fact that the members had comparatively few clothes and so little time was spent in washing.

164 As mentioned, much of the time shown as spent in sickness involves visits to the aid post and particularly to the fortnightly infant welfare clinic. Households containing small children, then, appear to spend most time in sickness. When days, rather than hours of sickness (including periods spent outside the village at hospital or the aid post), are taken into account, it is the households containing people over 45 that are most often sick. Household 24 spends on average 1.3 days per man-week in sickness. In addition to regular fevers, the household head suffered an anal prolapse in August and he and his wife spent the last 19 days of period II at Saiho hospital. Households 18 and 19 have the next highest sickness rates. Household 16 also has a comparatively high rate, largely because of the presence of the wife's aged mother but also because the whole household was sick with influenza during most of the last two weeks of the survey. All of the other households spent less than half a day per week in sickness.

592 There is not much difference between households in the amount of
512 time spent on social obligations. The widow and the wife of the head of household 21 spend rather more time than others in visiting, while the entrepreneur's household, (23), and the widower do little, and the latter was also unable to attend two feasts on account of sickness.

592 In addition to differences in activity patterns between the in-
512 dividual households, certain distinctions appear between cash
461 cropping and non-cash cropping households as groups. As is to be expected, cash cropping households spend more time in planting and tending commercial trees. Non-cash cropping households spend only 0.2 hours per man-week in cash cropping, assisting others and working on the copra project, but even cash croppers spend an average of only 1.5 hours per week on their trees. The two categories devote a similar amount of time to paid work and entrepreneurial activities - primarily because the Jego'undi men's period of work on the settlement block was intensive enough to outweigh the effect of the older non-cash croppers, who did no paid work. On average, people in non-cash cropping households spend 3.5 hours more per

592 512 461 week than those in cash cropping households in subsistence gardening and also more time in clearing, even though one of the former was clearing a garden for coffee. This is largely the result of the efforts of the widow and widower and household 24 in assisting others, as described above. Balancing the greater amount of time spent by non-cash cropping households in productive subsistence activities, the cash cropping households spend more time in tasks concerned with the external agencies, particularly purchasing, in household tasks and in sickness and care of the sick. This last is [757] without taking the separately-recorded days of sickness into account. In fact, the non-cash croppers, being generally older, are more liable to prolonged periods of sickness and are also more reluctant to go to the aid post when sick - often instead using a stinging leaf known as <u>irenge</u> as a counter-irritant for a variety of ills. In addition, three wives of cash croppers attended the infant welfare clinic regularly but only one non-cash cropping woman had an infant child. Table 7:7 shows details of these separately-recorded days of sickness, including sickness during absences.

Table 7:7

<u>Inonda: days spent in sickness per man-month</u>

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	Cash cropping households	Non-cash cropping households
Personal sickness:		
within village	0.8	1.5
outside of village	0.5	0.7
Care of sick:		
within village	0.1	-
outside of village	-	0.7
Total	1.4	2.9

592 512 461 Although the cash cropping households have, on average, a longer working week than others, it is clear that this is not due simply to time spent on their cash crops. It is noteworthy that non-cash cropping households, as well as spending a greater proportion of time in subsistence gardening, also dispose of slightly more garden produce per week than the cash cropping households, while the latter record a net inflow of garden produce and dispose of more store-bought foods (see Tables 11:8 and 11:9).

462 <u>The division of labour: the influence of sex</u>

Table 7:8 shows the division of labour between the sexes. As would be expected, men perform the major part of the heaviest tasks, including planting crops as well as clearing and fencing gardens,

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Table 7:9 shows the activities that consume most time of men and women separately, and of the nine most important activities for each sex, only fishing, planting taro and miscellaneous ceremonies appear for both men and women. Apart from planting taro and forest clearance, garden tasks account for a comparatively small proportion of men's time. The other food-producing activities have greater significance, with fishing, hunting and sago-making accounting for over one-fifth of the total time spent by men. It is striking that paid work is the third most important category of activity for men in general, even though the entrepreneur spent only a few hours and the widower no time at all in this way. Since five of the eleven men are in the youngest age group, this group's patterns have a marked influence on the pattern for men as a whole and largely account for the significance of fishing, visiting and miscellaneous ceremonies.

Garden tasks, particularly the maintenance and harvesting of taro, are much more important for women than for men. However, cooking is by far the most time-consuming activity for the former and the other main household chore, washing, is fifth in importance. Much of the time that women spend in fishing is with their husbands but they do fish alone - generally with small nets - while returning from the gardens. As described above, most of the time spent in preparing tools and equipment is for string bags and pandanus-leaf sleeping-mats.

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There is no specialisation of labour according to age. The main apparent differences are that young people (under 25 years) tend to spend more time in non-productive activities such as visiting and miscellaneous social ceremonies, whereas those over 45 have a more restricted range of activities and devote a higher proportion of their time to gardening.

<u>The weekly pattern of activities</u>

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As in Sivese, there is a semi-official, ideal pattern of work allocation through the week. Monday and Tuesday are said to be for cash cropping, Wednesday for mission work, Thursday and Saturday for subsistence gardening, Friday for council work and Sunday for rest. Although this ideal does have some bearing on behaviour, the actual pattern is much less clearcut.

As Table 7:10 shows, clearing, fencing and cultivation of subsistence gardens take place throughout the week and only a slightly smaller amount of time is devoted to these activities on Sundays than on other days. Cash cropping receives most attention on Mondays and Tuesdays as in the ideal pattern, but it is still quantitatively much less than the attention given to subsistence gardening or to other food-producing activities. On these days cash cropping accounts for 5 per cent of total time spent, compared with 2 per cent over the week as a whole. Church work takes place

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Table 7:10

Inonda: the weekly pattern of activities
(hours per man-day)

Ideal allocation	Monday Cash crops	Tuesday Cash crops	Wednesday Mission work	Thursday Subsist-ence	Friday Council work	Saturday Subsist-ence	Sunday Church and rest
Total man-days	383	383	393	387	381	365	374
Clearing	0.4	0.6	0.5	0.5	0.3	0.5	0.1
Fencing	0.2	0.1	-	0.1	0.1	0.1	0.2
Subsistence gardening	1.6	1.8	1.2	1.8	1.4	1.5	1.2
Fishing, hunting, gathering	0.9	0.8	0.8	0.9	1.1	0.8	1.1
Sago-making	0.2	0.3	0.2	0.2	0.2	-	-
Other subsistence activities	0.5	0.6	0.5	0.5	0.5	0.4	0.4
Household	0.5	0.5	0.6	0.5	0.6	0.6	0.6
Social obligations	0.2	0.2	0.3	0.3	0.4	1.6	1.2
Cash cropping	0.3	0.3	0.2	0.1	-	0.1	-
Marketing	-	-	0.1	-	-	0.2	-
Purchasing	0.1	-	0.1	0.1	-	0.3	0.1
Entrepreneurial	0.1	0.2	0.1	0.1	0.1	0.1	-
Paid work	0.4	0.4	0.3	0.6	0.3	-	-
Council work	0.3	0.2	0.2	0.1	0.3	0.1	-
Meetings	-	0.2	-	-	-	-	0.1
Church work and services	0.1	-	0.1	-	0.2	-	0.6
Sickness	0.2	0.1	0.7	0.2	0.1	0.1	-
Miscellaneous	0.4	0.2	0.1	0.2	0.3	0.2	0.2
Total	6.4	6.5	6.2	6.1	6.0	6.7	5.7

mainly on Wednesdays on the rare occasions when it is performed; services are naturally on Sundays though there is a lesser concentration on Friday due to the effect of the two Good Friday services and the occurrence of Christmas Day on a Friday in 1964. Council work on cleaning household areas is spread much more over the week than the ideal suggests, but communal cleaning of the village square is usually restricted to Fridays. The ideal of Sunday as a day of rest is not entirely borne out, in reality. The mean duration of activity on Sunday is 5.7 hours, little below the mean for the other days, but the activities pursued tend more towards leisure than on other days. Thus, 1.2 hours are taken up in social obligations, 0.6 hours in church services and 1.1 hours in hunting and fishing; the latter is often associated on Sundays with 'picnics'.

The 'ideal' pattern excludes many of the village activities, but some of these also are carried out more on certain days than on others. Marketing is restricted to the Popondetta market-days (Wednesdays and Saturdays). The increased emphasis on hunting and fishing on Fridays is designed to provide commodities for sale in the major Saturday market. The incidence of paid work is naturally almost entirely on weekdays since employment of labour is almost exclusively by Europeans; the small amount of weekend work was on the construction contract at the airstrip. As explained, the concentration of hours of sickness on Wednesdays is due to the fortnightly infant welfare clinic at Ijika. Social activities other than visiting and those associated with deaths are now more or less confined to the weekends, often extending from midday or earlier on Saturday to after dawn on Sunday. The only other activity with a notable periodicity is purchasing, this being mainly carried out on Saturdays, either after marketing or as an isolated activity.

The duration of activities

Table 7:11 shows the mean duration, in hours, of each activity and the standard deviation from the mean. It also shows the mean time of day at which each activity occurs, in terms of the mean mid-point of the period shown in the 'duration' column and the standard deviation from this mean. There is clearly a wide range in the duration of individual activities and in three cases (the weeding of minor crops, entrepreneurial activities and church services) the standard deviation exceeds the mean duration. The mean duration of a session of forest clearance is three hours, but two-thirds of all sessions last between one and five hours.

The mean duration of sessions devoted to specific garden tasks, such as planting or harvesting taro, is comparatively short, since several different tasks are commonly performed during a single visit to a garden. People usually leave for the gardens in early or mid-morning and return in mid-afternoon. With cash crops a whole

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morning or, less frequently, a whole afternoon is devoted to a particular task of cultivation, whether planting, maintaining, harvesting or processing and the mean duration of each of these activities is longer than for subsistence garden tasks.

As described,[1] the longest working sessions are spent on sago-making: 68 per cent of these sessions last between 5 and 11 hours. Thus, when a sago-palm is being harvested, men have little time for other tasks. Paid work also tends to preclude other activities by occupying the bulk of the daylight hours and the same is largely true of the fulfilment of most social obligations. Although many social occasions, particularly feasts and parties, take place during or continue into the night, the daylight hours beforehand are usually taken up with preparations, including the construction of shelters and the harvesting of food. Hunting and fishing both occupy on average more than four hours at a time. Fishing usually takes place in daylight hours, whereas people hunt mostly at dawn or dusk[2] and hunting does not therefore prevent the performance of daytime activities.

Most of the activities shown in Table 7:11 have a mean mid-point falling between about 11 a.m. and 2 p.m. Activities occurring early in the morning are church services, 'mission' work, visits to the aid post (personal sickness) and visits to Popondetta market.

The journey to work

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Table 7:12 shows the proportion of total time spent on different classes of activity in travelling: part A shows the details for people while resident on the old village site and part B for the new site. Owing to the method of coding for computation, it was not possible to make allowance for the performance of several tasks at one site; where, for instance, a woman visited a garden and spent some time in clearing, some in weeding and some in harvesting and also visited another site on her way home, each period was recorded separately, thus exaggerating total travel time. An attempt was made to reduce the exaggeration by recording separately the occurrence of such duplicated times and these have been subtracted from the total, but not from the grouped activities. Most of these duplications were in clearing and gardening activities. Applying therefore an arbitrary proportion of 70 per cent of the

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[1] See p.133.

[2] This bi-modal distribution for hunting invalidates the mean mid-point of 1331 (1.31 p.m.) hours shown in Table 7:11. To some extent the same is true of cooking, since most cooking is in early morning for breakfast and in late afternoon for dinner.

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166 464 461 he expresses at present a preference for paid work and spent over 27 hours, in addition to one full day, seeking employment. However, the only paid work he obtained was on the entrepreneur's construction contract at the airstrip. Since the completion of road construction in the area, paid work other than labouring for settlers has been difficult to obtain. Isembe has sought work requiring responsibility, for instance, as a storeman, rather than casual labouring, but even in Popondetta responsible work is rarely available and there are many other men of similar age and with similar or better educational qualifications competing for the same few vacancies.

● 512 461 [226] Isembe is active for an average of 49.5 hours per week. His most time-consuming task is fishing, usually with friends of the same age, and this is probably regarded as recreation as much as productive work. It accounts for 20 per cent of the week's activities. Sago-making is also important in the dry season. In the category of other food-producing activities over one-third of the time spent in subsistence gardening is in planting taro, sweet potato and minor crops and one-half in clearing and harvesting. During period III, he made a garden independently of his brother for the first time. This was intended for his brother's wife's use and served as a return for the food he received as a member of the household. Productive subsistence activities account for 21.4 hours a week.

[434] Isembe's main cash-producing activity is paid employment. He also assists his brother and others in their coffee gardens and spends some time in marketing. In fact, he never acquired any cash in the Popondetta market: he threw away unsold hipere (limes) and gave unsold bush-turkey eggs to a friend. However, in November, he caught a 4 ft long crocodile in the Girua River and sold it to a Chinese merchant in Popondetta for $4.80. The 2.1 hours spent on purchasing are partly on his own account and partly as a service to others, since purchasing provides a reason for travelling and meeting friends.

[883] Apart from the category of other food-producing activities, social activities consume most time during the week, with a slightly higher proportion spent on visits than on organised feasts and parties. These visits are brief and distinct from those considered in discussing absences and are one of the most typical aspects of the behaviour patterns of young men. A closely related activity is church attendance, which occupies over an hour [776] a week because Isembe often walks to services at Uiku, again in order to meet his friends. His visits to the aid post take up more time than the average spent even by women with

8: Waddell & Krinks E-4,5 (1964-1965) 1968 QJ23 Orokaiva QJ23

461 infant children, partly because he suffered from a leg ulcer for some weeks, but also
512 partly because of the social aspect of such visits.

In all, productive tasks account for 32 hours, or 65 per cent of the total for the week, and two-thirds of this amount is spent in activities in the subsistence sector. Of the weekly total of 49.5 hours, 11.3 hours or 23 per cent are related to the monetary sector and external agencies such as the mission.

472 Lawrence. Aged 36, Lawrence is the leading man and entrepreneur. He is married
159 and has four children, the eldest being a boy of twelve. Although he only reached standard IV at the mission school, he became a mission teacher and spent four of his five and a half years in this occupation in New Britain. He subsequently spent periods while resident in the village as a labourer and carpenter's assistant and served for two years as elected local government councillor for the villages of Ihonda, Hohota, Mosou, Ajuro and Sewa. Lawrence acquired 230 coffee trees from his classificatory father and has rights to over 100 mature coconut palms. In 1963, he opened the trade store in the village. In November 1964 he had a total cultivated area of 1.23 acres, of which 0.9 acres were under taro. Unlike most other households, he has no sweet potato garden and only a token number of yam vines, cultivating banana, corn and Xanthosoma instead as subsidiary crops.[1] His household has a lower area of food garden per member than all but one other household and he spends less time in subsistence gardening than all the six selected individuals apart from Bomba.[2] Like most household heads, he is rarely absent from the village. During the survey he spent two days at a feast which almost everyone in the village attended, two days visiting his wife's father in hospital, two in Port Moresby with the researchers, one on work for the Administration during the national elections and one caring for his sick daughter. In addition, he was inactive through sickness - mainly influenza - for nine days.

Through a combination of several factors, including his position as senior resident member of the Andiriha clan, and the knowledge and experience gained during his periods as teacher and councillor, Lawrence is developing his entrepreneurial skills towards the

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1 The same pattern was evident for this household in 1962 (G. Hughin: personal communication).

2 However, Lawrence's household is above average in terms of cultivated area per able-bodied person.

472 achievement of several ambitions, including the acquisition of a carpenter-built house. He spends more time on cash-producing activities than any other villager and is the recognised spokesman in all village-level contacts with the external agencies. Through his experience he was able to win and fulfil the construction contract at the airstrip, as well as arranging for the sale of hardwood trees to the Administration, which others could, but did not do. Half of the time spent on entrepreneurial activities is on the trade store and the rest mainly on the contract. As will be shown in Chapter 12, these activities are more rewarding than cash cropping, and the entrepreneur spends less than 0.5 hours a week on his coffee holding and 1.0 hour a week on copra. Paid work and the other main source of cash, marketing, account for only 1 hour a week. Altogether, involvement with the monetary sector and external agencies occupies about 19 hours a week, or 37 per cent of the total - a higher proportion than for any other villager.

461 The most time-consuming activity after entrepreneurial activities is hunting, although prior to his purchase of a shotgun in July Lawrence spent very little time this way. This and other food-producing activities occupy as much time as paid work and entrepreneurial activities and double the amount spent on subsistence gardening. Productive activities in both sectors account for almost 42 hours, 80 per cent of the weekly total.

It is clear that for the entrepreneur cash-producing activities have the highest priority once subsistence is assured. In this connection, it is noteworthy that during the dry season, the intensive labour by all the men on construction of the copra-drier took precedence over other activities, but when a pig invaded his garden Lawrence spent two days in fencing and only then resumed construction of the drier.

512 [527] [431] Marjorie. This woman is aged 21 and is married to Emboni's eldest son, who began establishing a coffee garden during the survey. They have one son, and held a party to mark his first birthday in March. Marjorie was born in Hoherita village, as were four other Inonde residents, and she was educated to standard V. Her father's brother is a teacher at Popondetta mission school, where several other relatives also work and she spent a considerable amount of time visiting these and other kin, usually taking gifts of garden produce and receiving in return storebought foods and cash. In addition to the average 2.7 hours a week spent in this way, she was absent for 13 days on visits and for another 6 days on mourning and funeral obligations when her father and her husband's mother's brother died within a week of each other. Her frequent visits and gifts to her kin were

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Table 7:16

Income: activity patterns of selected individuals
(hours per man-week)

		Cash croppers			Non-cash croppers		
Name		Isombe	Lawrence	Marjorie	Paulus	Hanaho	Bahogi
No. of weeks present		13.9	25.8	22.3	23.1	26.0	20.6
Subsistence							
i. Productive							
Clearing		1.6	4.1	0.9	3.3	4.8	1.9
Fencing		0.3	1.8	0.2	0.7	3.4	0.9
Subsistence gardening	- plant	2.5	2.2	0.8	3.6	5.5	2.9
	maintain	0.7	0.6	2.3	2.7	2.9	4.7
	harvest	1.8	1.0	6.5	1.3	1.8	10.7
Subsistence produce	- market	0.9	0.4	-	0.8	-	-
Other food production		13.6	11.5	5.2	16.9	4.6	2.2
Other subsistence activities		0.9	3.5	2.9	5.8	5.9	3.4
Household		1.2	1.5	7.8	1.2	0.8	4.7
ii. Non-productive							
Social obligations		7.5	2.9	5.3	3.3	2.3	4.1
External							
i. Productive							
Cash cropping	- plant	-	-	0.4	-	-	-
	maintain	1.5	0.6	0.4	-	-	0.5
	harvest	0.8	0.2	0.4	0.1	0.1	0.2
	process	0.2	0.4	0.2	0.2	0.1	-
	sell	-	0.2	-	-	-	-
Paid work and entrepreneurial activities		3.9	11.3	-	5.1	-	-
Purchasing		2.1	2.3	-	1.8	-	-
ii. Non-productive							
External agencies		1.9	3.5	4.6	0.9	1.1	3.0
Sickness		3.2	0.7	2.5	0.8	0.1	0.9
Other		4.9	3.0	1.2	4.2	0.4	0.2
Total		47.5	51.7	41.6	55.7	43.8	40.5
Percentage of total time spent in							
Productive activities		65	80	67	82	88	80

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512 criticised by her husband and by others, particularly when her husband's mother was sick at the aid post and he was left with no close relative to perform household tasks. Social obligations and other generally non-productive activities account for 33 per cent of the total time that Marjorie spends on her activities, compared with 20 per cent for the village as a whole, and the mean length of her working week was less than 48 hours compared with the village average of almost 49 hours. Apart from household tasks, the most important productive activity is harvesting of subsistence crops. Over half of this time is spent on taro and the rest on sweet potato, yams and minor crops. The other aspects of cultivation and clearing bring the total time on subsistence gardening to almost 11 hours a week; only taro receives any maintenance. Fishing - usually with a small net, in contrast with the spears used by men - is the most time-consuming of the other food-producing activities, although she also assists her husband in sago-making. Other subsistence activities are restricted almost entirely to making string bags and pandanus-leaf sleeping-mats.

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The average weekly time Marjorie devoted to cash cropping equals that of the entrepreneur. She helped her husband establish a coffee garden and worked with the other villagers making copra. However, the time she spends in cash cropping is less than that spent in other activities related to external agencies. Of such activities, over one-third is on council work and almost one-third on meetings of the Hohota Women's Club; the rest is mostly on church services, since she often goes to the Ijika services held by close kin of hers. In total, these activities and cash cropping account for 14 per cent of her activity time.

[461]

Although Marjorie invests sufficient time to maintain the household's gardens, it seems clear from the frequency of her contacts with her consanguineal kin in other villages and from the comparatively low proportion of her time devoted to productive labour that she is less oriented towards her village of residence than are the other wives, all but one of whom also originate from other villages.

Paulus. The younger of Manoho's two sons, Paulus is aged 25, is married to the sister of the leading man's wife and has two sons (a third having died a few months before the survey began). He was educated only to standard I. Subsequently two and a half years were spent working as a surveyor's assistant in Port Moresby and some months as a labourer (and briefly as a foreman) on the roads near the village. He has no cash crop

512 [461] holdings - his father's coffee plantation of over 100 trees was given to the eldest son - but intends to plant both coconuts and coffee. He sees cultivation of cash crops as preferable to working away from the village since the former guarantees a continuing minimum income, but he believes that paid employment while resident in the village is the best source of cash. After the end of the survey Paulus, Lawrence and two others obtained work in Popondetta, returning home each night. Despite his lack of formal education and holdings of cash crops, Paulus is generally recognised as second in status to the leading man, and when the leader refused to be nominated for re-election as local government councillor, he was asked instead. He was prepared to stand, but eventually declined because of his wife's disapproval. When Lawrence proposed individual working of copra it was Paulus who insisted, successfully, that it should be communal, on the grounds that the others had insufficient palms to make individual working worthwhile. However, having gained his point, he was prepared to leave the sale of copra and the operation of the village savings account to the leader.

[461] On average, Paulus is active for more time per week than any other villager and over 82 per cent of his time is spent on directly productive tasks. He is recognised as the most accomplished hunter in the village as well as being skilled at fishing and, together with sago-making, these food-producing activities account for almost one-third of his activity time. He frequently borrows a shotgun from Lawrence or from his living nearby and from [439] August onwards often took smoked meat or fish to market in Popondetta. As he has no cash crops his main sources of income are paid work, marketing and gambling, but only paid work consumes more than an average of one hour a week. Apart from the contract work, this includes work on the bridge over the Girua River during the first three weeks of the survey.

Although he spends more time on subsistence gardening than the cash croppers discussed above, Paulus spends much less in this work than the other non-cash croppers. Most time is spent in clearing and in planting and maintaining taro. He is one of the few with a significant number of yam vines, the crop occupying as much of his time as sweet potato [462] cultivation. As is usual for men, harvesting consumes little time, except for sugar-cane and coconuts.

The only other subsistence activity that accounts for a noteworthy proportion of Paulus' time is construction. Although much of this was, in fact, on the copra-drier, he spent

more time than others, during the survey at least, on house building. During period I, while still living in the old village, he erected a temporary house on the new site. During period II he lived in this structure while building his permanent house, and this was completed during period III. As was pointed out above,[1] the amount of time spent in building during 1964 was much higher than in most years.

Only 17 per cent of his time is spent in activities related to the external agencies and the monetary sector. Of the comparatively small amount of time devoted to activities not directly productive, Paulus spent most on minor activities and social obligations. As with the leading man, little time is spent on visiting.

Mamoko. A widower aged about 55, Mamoko was captured in an inter-tribal raid on the Managalase people in the Hydrographers Range and adopted by his captor from Inonda. He married an Inonda woman and had several children. His two surviving sons are still resident and several daughters are married to men in other villages. He received no education but spent six years as a plantation labourer. Unlike many of his generation he was baptised as a Christian and regularly attends the village services. It is said that Mamoko would be the 'ambo dombo' (big man) of the village if his wife were alive, since he knows most about the land and social relationships (which are of primary importance when organising feasts). However, as he has no wife to assist him and to lead the other women, he is unable to fulfil the role effectively. Instead, he gives advice to Lawrence, the accepted leader. In 1955, he and two other men, both rather younger than himself, made small coffee plantations on the north side of the Girua River. Some years later he gave his trees to his eldest son and staked out a harvested food garden near the present village site preparatory to planting cocoa, but he did not complete the scheme. During the survey, he spent a little time assisting the other men build the copra-drier and a little in collecting and splitting coconuts to make copra. His only cash income during the survey was from gifts, but immediately prior to the survey he had worked for some weeks on road-building.

The widower has the shortest working week of all the villagers, but 88 per cent of his time is devoted to directly productive activities. Over half is spent on the clearing, fencing and cultivation of subsistence gardens. Taro receives most attention, followed by yams,

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[1] See p.136.

8: Waddell & Krinks E-4,5 (1964-1965) 1968 QJ23 Orokaiva QJ23

then sweet potato and minor crops. After the Mt Lamington eruption, several rivers flooded and, with the exception of Mamoko's, all the Inonda people's yam gardens were destroyed. The supply of yams has gradually been increased from those surviving in his garden, but he and his sons are still the only people with large holdings. Mamoko spends a considerable amount of time assisting others in subsistence activities; in particular, he cleared and maintained a sweet potato garden on behalf of the widow and also helped her in fencing, in erecting a yam storage house and in constructing her house on the new village site. He also spent 30 hours helping his son to make sago. His eldest son's wife and the widow often harvest in his gardens and cook for him. Among his other food-producing activities he spends 2.5 hours a week on hunting, using a spear and accompanied by his son's dog; he usually gives the produce to his son's wife.

Mamoko was never absent from the village for a whole day, but spent 19 days inactive through sickness. Largely because of this, he was unable to attend a number of feasts and spent less time than anyone else in this way. Like most of the men, he spends little time on council work; this and other activities related to external agencies and the monetary sector account for only 4 per cent of his time. In other words, his activities are now almost wholly subsistence-oriented, although he maintains an interest in and encourages others to plant cash crops.

Embogi. A widow aged about 51, Embogi was born in Urio village and retains close links with her kin there. Her first and second husbands, who were brothers, belonged to a subordinate branch of the main lineage in Inonda. Her third husband, who had one other wife living, died in 1962. She has a son and a daughter from this last marriage, and has remained in Inonda partly to maintain her youngest son's rights to land inherited from his father. She maintains a separate household with these two children but in August her eldest son and his wife (Marjorie) moved in with her prior to building their own house on the new village site. Embogi's second son (by her second marriage) normally lives with her but for most of the survey was staying with a classificatory father while attending the administration school at the settlement block. Her house was built mostly by this son and Mamoko, the eldest son being absent at the time at his wife's father's funeral feast in Hohorita.

Although Embogi's working week is considerably longer than Mamoko's, it is shorter than that of most others. However, 80 per cent of her time is devoted to productive

●512 activities - as high a proportion as the entrepreneur's. Most of this time is spent in maintaining and harvesting subsistence crops, particularly taro and sweet potato. In addition to the garden made by Mamoko, her brothers in Urio made a garden for her and also planted a 'catch crop' of sweet potato in a newly-cleared cocoa garden. Other food-producing activities - mostly fishing - occupy comparatively little time and other subsistence activities account for under 3.5 hours a week. Embogi spends more time on subsistence gardening than any other villager and detailed observations of her work on specific tasks revealed that she spends less than the average proportion of the time in resting. As is shown in Table 11:8, she also disposes of more subsistence produce than any other household.

Only 9 per cent of her time is spent in activities concerning external agencies and the monetary sector. She assisted her eldest son in establishing his coffee garden and helped the eldest son of her third husband in exploiting the trees he inherited from his father. She also helped briefly in the copra-making. In total, cash cropping accounts for very little of her time, but it is nevertheless a greater amount than for any other non-cash cropper. She was the only villager who spent any time collecting roofing materials for the Ijika church, and church work and services together consume the same amount of time as council work. She sometimes attends services at Ijika, where one of her daughters is married to the aid-post orderly.

Social obligations account for rather more time per week than contact with external agencies. In addition to the 4.1 hours shown in Table 7:17, Embogi was absent from the village for 12 days in visiting, mourning and feasting and for 9 days caring for her daughter during her first confinement. She was absent through personal sickness for a further 15 days.

As with Mamoko, Embogi's activities are largely subsistence-oriented and the shorter working week is at the expense of not only cash-producing but also of non-productive activities. None of the selected three cash croppers exceeds the non-cash croppers in the proportion of their time devoted to productive activities.

512 437

Table 10:9

Sivopo: transactions of selected categories of goods and services by households
(volume per man-week)

A. Subsistence produce, cash crops and labour services

Household	No. of adults	No. of man-weeks recorded	Subsistence produce (lbs)						Cash crops ($)	Labour services (hrs)			
			Cultivated produce		Produce of hunting		Domestic pig		Cash crops	Subsistence		Cash	
			A	D	A	D	A	D	D	A	D	A	D
1*	4	86.3	13.4	9.1	1.0	-	7.0	6.7	-	0.2	0.5	-	0.2
2*	4	76.4	10.8	19.4	1.2	0.2	1.2	5.3	0.20	0.6	0.3	1.0	-
3*	2	51.1	15.8	17.1	0.7	2.4	0.7	0.3	0.30	0.1	2.7	0.2	-
4	2	9.6	7.7	2.7	-	-	-	-	-	1.4	1.3	-	0.4
5*	3	58.9	9.8	7.4	0.4	0.2	0.6	-	0.07	0.1	2.1	-	0.1
6	1	25.6	14.9	19.3	0.1	-	0.4	0.1	-	13.5	0.6	-	-
7	1	16.4	9.9	5.6	-	-	-	-	-	5.2	5.6	-	0.1
8	1	25.3	23.2	40.2	-	0.1	0.4	-	-	1.4	3.6	-	1.4
9*	2	47.3	30.4	34.6	0.5	0.2	0.2	0.1	0.33	0.6	-	0.2	-
10	2	39.1	9.0	6.4	-	-	0.7	-	-	0.8	0.2	-	0.4
11	4	68.1	9.2	11.9	0.1	0.1	0.6	-	-	0.1	1.0	-	0.2
12	2	16.4	12.1	8.1	-	-	0.1	-	-	0.1	0.6	-	0.3
13*	2	46.3	17.6	35.9	0.5	0.7	0.2	4.4	0.13	1.8	0.5	0.8	0.2
14	3	60.1	8.6	20.7	0.1	1.5	1.1	0.2	-	1.2	2.6	-	0.7
15*	2	50.3	22.1	38.2	0.3	2.6	5.8	2.7	0.31	5.1	2.6	1.4	0.2
Total	35	677.2											
Mean			14.2	19.0	0.5	0.6	1.8	2.0	0.11	1.5	1.4	0.2	0.2
Cash cropping households	T 19	416.6											
	M		16.2	21.1	0.7	0.8	2.6	3.2	0.17	1.0	1.2	0.3	0.1
Non-cash cropping households	T 16	260.6											
	M		11.1	15.6	0.1	0.4	0.6	0.1	-	2.3	1.8	-	0.4

It will be seen that the 7 household heads who have worked have spent a total of 80 years in employment. Only 20 of the 80 years were spent in unskilled occupations, the remainder (as councillors, constables, foremen, drivers, teachers) all carried some element of skill or responsibility.

The formal education of household heads is summarised in the following table.

Table 10

Summary of education of household heads

Household No.	Within own village		Within own district		Other districts		Total	
	Years	Standard reached	Years	Standard reached	Years	Standard reached	Years	Years x standard reached
1	-		-		-		-	0
2	-		-		-		-	0
3	2	1	-		-		2	2
4	5	3	2	4	-		7	23
5	-		-		-		-	0
6	3	1	-		-		3	3
7	6	2	-		-		6	12
8	-		10	8	3	10	13	130
	16	-	12	-	3	-	31	175

Patterns of work

The villagers claimed that they work to a pattern and that Monday and Tuesday are cash cropping days, Wednesday is for mission work, Thursday and Saturday are reserved for the food gardens, Friday is set aside for council work, and Sunday is a day of worship and rest. In fact, however, with the exception of men who are working for wages and have week-ends off, there is little in the way of a weekly rhythm in the organisation of work. There is usually a short church service held

512 early on Sunday morning, but otherwise Saturday and Sunday are spent in much the same way as the other days of the week. Most people trim the grass and clear away any rubbish around their houses on Friday mornings. This is known as "council work" as it is made mandatory by a council by-law. It takes only an hour or two and not all villagers do these chores at this time.

221 Although there is some seasonal rhythm in subsistence activities, it does not seem to be very great, and relatively few other activities are affected by seasonal variations. The obligations associated with death, marriage and ceremonial activities seem to have a much greater effect on the patterns of work.

462 House-building, hunting and bush-clearing are primarily the province of men. Women's work includes weeding, harvesting, and domestic chores. Both sexes co-operate in planting, collecting firewood, stacking and burning dead wood, and foraging for wild foods. Men appear to work jointly with their wives much more in the cash crop gardens than they do in the food gardens.

125 A brief survey of patterns of work was undertaken for a period of six weeks (from 2nd July to 12th August 1962). Such a short study cannot give any indication of seasonal variations, nor can it be considered as necessarily representative of the year as a whole. In fact, owing to the death of one of the village elders during our stay, a considerable amount of time was spent in mourning and attendant social obligations. But since the beginning of 1959 there have been an average of two deaths per year in the village, and when one considers that the villagers are also involved in deaths of relatives in other villages, in marriages both here and elsewhere, in feasts, church celebrations and other commitments, the amount of time spent in social obligations during this period may not have been unduly out of proportion. The survey was undertaken as a pilot project only, on the basis of which it is proposed to organize a much deeper study of time patterns among the Orokaiva over a

125 period of up to twelve months.

Data were collected daily on the work undertaken by each villager of fifteen years of age and over. Details of the work proposed for each day were noted each morning, and usually verified in the evening. However, as the people do not have clocks and we were unable to make detailed checks throughout the day, the number of hours recorded for each task can only be taken as approximate.

512 461 It is much easier to summarize and compare the hours spent in various activities if we have a standard yardstick of a day's work. Plantation labourers work an eight-hour day, but we are reluctant to use this as a basis for comparison with village folk. On the other hand, a simple total of hours spent in each task can also be misleading: for example, the councillor on one occasion spent seventeen hours on council work (including travelling time) in one day. Merely added into a list of hours this would suggest that more than two full days were spent on this duty, though this was not in fact the case. Likewise we have found it difficult to account for days spent in mourning, travelling or celebrating in such a way that total time can be effectively compared. From a preliminary analysis of days which were not marred by mourning, celebrating or sickness, we found that people were occupied in activities other than domestic and leisure for about seven hours daily. Therefore when a day is taken up with sickness, mourning, travelling or other non-productive occupations, we have recorded it for comparative purposes as seven hours.

It will be seen from Table 11 that on the average each man spent 14.0 hours a week on subsistence activities (including hunting etc.) and each woman 15.1 hours. If the time spent in cash cropping is added to this the average becomes 14.7 hours for men and 16.0 hours for women.

Table 11

Time patterns

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	Average hours per week (6 weeks)		
	Men	Women	Both sexes
Traditional production			
Subsistence	9.6	13.9	11.7
Hunting, fishing and foraging	4.3	1.2	2.8
Building	0.1	-	0.1
	14.0	15.1	14.6
Production for cash			
Paid work	11.3	-	5.7
Cash cropping	0.7	0.9	0.8
	12.0	0.9	6.5
Non-economic activity (other than domestic and leisure)			
Social obligations	12.5	20.0	16.2
Travel	2.8	3.1	2.9
Sickness	2.6	3.2	2.9
Council	0.6	0.1	0.3
	18.5	26.4	22.3
Total	44.5	42.4	43.4

When wage labour is available locally it is keenly sought after by the villagers. Two men had regular work for the Public Works Department. In addition some casual work was available at various times during the year on a local construction job. All the able-bodied men under about forty years of age offered themselves for work at such times but there was not always sufficient work for all to be employed. Table 12 shows that those men who were engaged in paid work for 40 or more hours per week still spent an average of 6.0 hours on subsistence activities (this is just under half that for all men in the village). They spent much less time on social obligations and travel, and had much less leisure time. This is illustrated in more detail in Diagram 1.[1] Owing to the absence of the paid workers during the day their wives had to undertake more work in the gardens, though in many cases a young male relative of the wife came to help her from time to time.

Table 12

Subsistence work done by men who were also engaged in full-time paid work

	Men in paid work	Total hours work on subsistence	Average hours per man
1st week	5	61	12.2
2nd "	5	nil (feast)	0.0
3rd "	No man had a full week's work this week		
4th "	1	nil	0.0
5th "	1	6	6.0
6th "	1	11	11.0
	13	78	6.0

Note: One man was omitted from the table as, though he was paid full time, he did not have to work full time and was able to do his subsistence work in his employer's time.

(1) It should be noted, however, that those who were accepted for employment were the younger, more energetic men who would probably have done more work than the average in any case.

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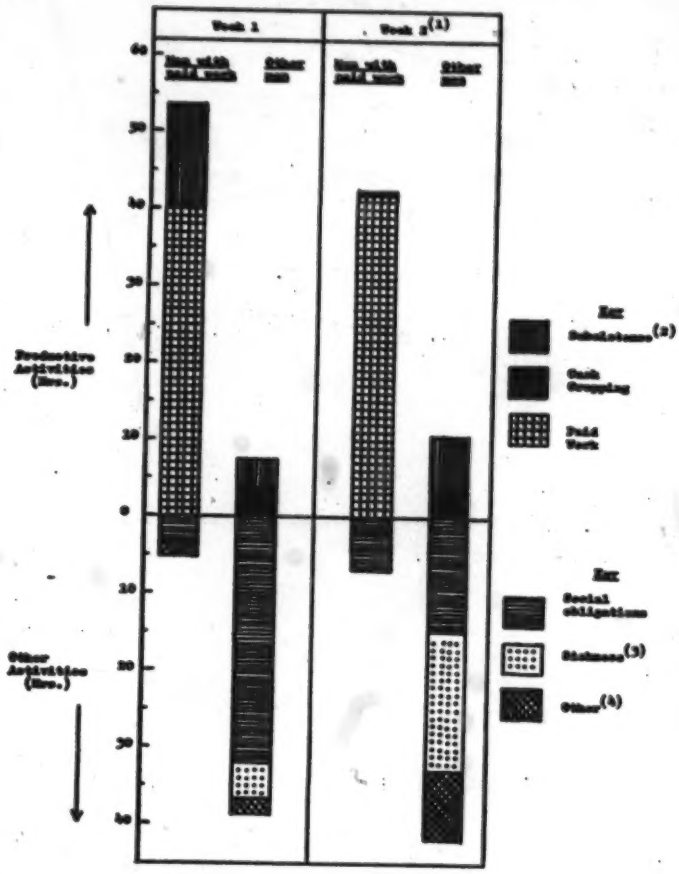
Diagram 1

Activities of wage earners compared with those of other persons.

[In average hours per person per week]



(1) This chart is only drawn out for the two weeks as thereafter there was not more than one man fully employed (see Table 12)
(2) Including hunting, fishing, foraging and building
(3) Including caring for the sick
(4) Including travel, council work etc.

[p.65]

512 461 241 Owing to their employment, the paid workers were able to spend less time on food production, and the average area of food garden was less (per consumption unit)(1) in households where the adult males had paid employment than in those where they did not. The three households wherein the only man had paid work had an average of 0.72 acres under cultivation per consumption unit, the two households wherein the only man did not have paid work had an average of 1.66 acres under cultivation per consumption unit, and the three households containing two men (in each case one working and one not) had an average of 0.79 acres per consumption unit.(2) Food intake was maintained partly by the purchase of store foods, particularly rice. Moreover, the wives of paid workers spent more time than usual in subsistence production, and concentrated more than the wives of other men on harvesting for current use more than [464] cultivation for future use. Planting is not maintained at the normal level when paid work is available, but as the work is casual this has no serious effects (for extra cultivation is done [465] when paid work is no longer available). The present pay-rate of £1.10.0 for a 40 hour week is not sufficient to feed a family from store foods alone, so that continuous work at these rates would probably result in a decline in living standards.(3)

512 461 Men who are engaged in paid work still engage to some extent in other types of productive work. The main substitution is not paid work for other productive work, but paid work for non-productive occupations. This is illustrated by Diagram 2 which compares the activities of paid workers with those of all men for the whole period.

The amount of time spent on social obligations is probably somewhat higher than usual owing to the death men-

[125]

(1) Any person 10 years of age or over was rated as one consumption unit, children 4 - 9 as half, and infants 0 - 4 as one quarter. Temporary visitors were excluded.

(2) The average for the households with two adults was reduced by the fact that in two cases the men remaining at home were either ageing or suffering from long-term illness.

(3) The most reliable indicator of nutritional requirements is the rations scale in the Native Labour Ordinance 1958. This ordinance prescribes minimum quantities of foodstuffs required for indigenous workers and their dependents. The retail cost of the supplies listed is approximately £1.3.0 per week for a single man or £2.19.0 for husband, wife and three children. These prices are for food only.

[TEXT CONTINUED ON PAGE 68]

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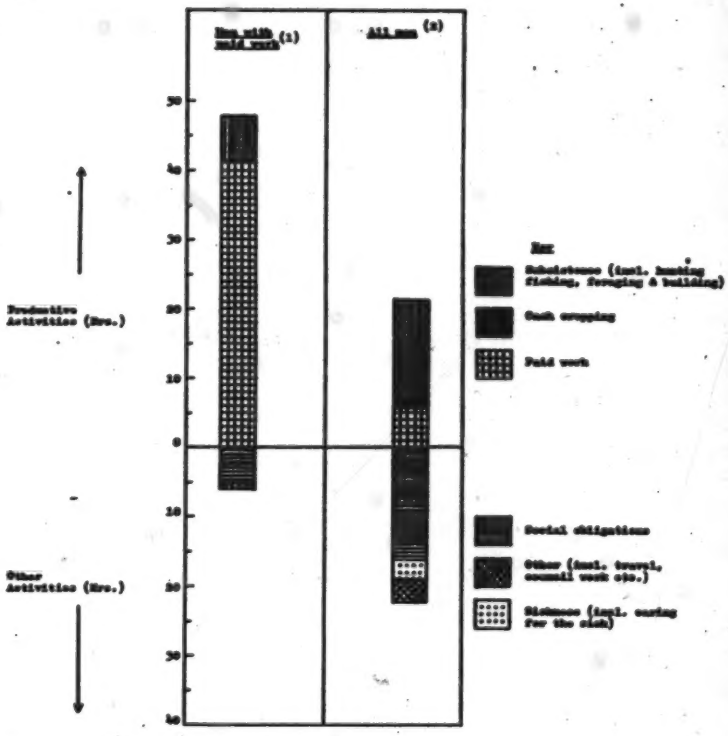
Diagram 2

Activities of men in gold work compared with those of all men in the village (in average hours per man per week).



(1) For first 2 weeks of the survey (see Table 12).
(2) All men for the full 6 week survey period.

[p. 67]

512 461 tioned, but it does indicate the effects of life crises on productivity. Table 13 shows the hours spent on various subsistence tasks during a "normal" week when there was no mourning or feasting as against the average of those weeks when there was mourning or feasting. It will be seen that approximately the same amount of time is spent on subsistence activities as a whole, but whereas in the "normal" period most of this time is spent on cultivation, during life crisis most of this time is spent harvesting accumulated reserves of food. It will also be noted that during times of crisis the work of women increases, as they do most of the food preparation, whereas the work of men decreases.

Table 13

Hours spent per person in subsistence activities in a "normal" week compared with weeks of mourning or feasting

	One "normal" week (no mourning or feasting)(1)			Weekly average of five weeks with mourning or feasting		
	Males	Females	Both sexes	Males	Females	Both sexes
Cultivation:						
Planting	5.6	1.9	3.8	1.7	0.9	1.3
Clearing	1.6	-	0.8	1.2	0.6	0.9
Fencing	3.8	3.6	3.7	0.7	-	0.3
Weeding	-	0.8	0.4	0.1	2.4	1.3
	11.0	6.3	8.7	3.7	3.9	3.8
Extraction:						
Harvesting	0.3	4.4	2.4	1.9	8.7	5.3
Sago-making	-	-	-	3.7	2.0	2.9
	0.3	4.4	2.4	5.6	10.7	8.2
Total:						
All subsistence activities	11.3	10.7	11.1	9.3	14.6	12.0

(1) This was the last week of our survey. The women of the deceased's family still spent some time in mourning, but the rest of the village resumed normal work.

657 man since tenure conversion was introduced. It suggests that in
423 situations of stress, as when sorcery is feared, traditional tenure patterns may take precedence over the newly introduced system.

Several people mentioned that they will in future share the proceeds from their rubber with non-blockholding kinsmen, but most said they would not.

Inheritance of converted land

657 In law blockholders may depart from the traditional pattern of
423 inheritance when disposing of their land. As far as could be
428 ascertained, most of the Ombi-Tara people wish to continue the traditional Orokaiva inheritance pattern, under which the first
[178] son generally has some precedence. The first son is not, however, the sole owner but rather the nominal trustee of the land for all sons. If the landowner has no sons, his daughters may keep the land in trust for their sons and in some cases the daughter's husband may also acquire some rights.

Several people intend to pass their blocks to the first son only and expect any other sons either to take up another block on what is now clan land, or to gain wage employment in an urban area.

Work organisation

657 The time spent in Ombi was too short to enable any conclusions
423 to be drawn about the effects of conversion on work organisation,
182 but a few general points may be made. There was no set routine in the sense of particular days being set aside for particular kinds
● 512 of work. A number of people reported that Wednesdays and Fridays are set aside for Mission and Council work when required. During our stay no Mission work was done and Council work was done only on the first Friday, when most of the men went to a village two miles away to cut the grass around the Administration school, due to open the following week. Gambling occupied many people for much of Saturday and Sunday but others carried out normal work in the gardens on these days.

657 Husbands and wives worked together on food and cash crops, but
423 I am unable to estimate whether husbands work more on cash crops
182 and wives more on food crops as has been observed at times elsewhere.

[462] Five men were employed on maintenance work on the Popondetta-
[464] Kokoda road near Ombi for the full period of our stay, receiving
[465] $6.42 a fortnight. The need for cash to pay the Council tax and the Mission jubilee contribution led five others to work on road maintenance during the final week of our stay. Although working a thirty to forty hour week, the five longer term roadworkers have planted an average of 410 rubber seedlings each which is greater than the average of 346 seedlings for all Ombi-Tara blockholders.

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TABLE 8

ACTIVITY PATTERNS OF HOUSEHOLDS
IN SIVEPE AND INONDA
(In Hours Per Man-Week)

Source: Waddell and Krinks, 1968: 97 and 132

Note: As virtually all Sivepe households were involved in cash-cropping by 1966-1967, the figures quoted here for Sivepe show the mean activity pattern for cash-cropping households.

Activity	Mean Number of Hours Per Adult Per Week	
	Sivepe	Inonda
Clearing	3.3	2.9
Subsistence Gardening	13.2	11.7
Other Subsistence Food Production	3.0	7.5
Other Subsistence Activities	1.4	3.4
Cash Cropping	2.3	1.0
Paid Work	1.0	2.7
Household	6.1	3.8
Social Obligations	3.3	4.2
Sick	1.0	1.6
External Agencies	7.0	3.2
Other	0.9	1.5
TOTAL	42.3	43.5

TABLE 18

SIVEPE: THE DIVISION OF LABOUR BY AGE
(In Hours Per Week)

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Source: Waddell and Krinks 1968: 104

Age Group	15-24	25-34	35-44	45-54	55+
No. of Individuals	2M, 5F	4M, 7F	4M, 1F	5M, 5F	2M
Total Weeks Present	105.9	128.0	115.3	252.6	51.1
SUBSISTENCE					
Productive:					
Clearing	2.3	2.7	5.2	3.8	5.8
Subsistence gardening	7.9	13.8	13.5	14.9	12.3
Other subsistence food production	1.8	2.6	5.4	1.6	1.4
Other subsistence activities	1.1	0.8	4.1	2.1	1.6
Household	3.7	8.7	2.9	5.6	0.4
Non-productive:					
Social obligations	4.1	3.2	4.7	2.9	1.8
EXTERNAL					
Productive:					
Cash cropping	0.4	1.7	3.1	1.5	0.1
Paid work	6.5	0.5	0.9	0.9	-
Non-productive:					
External agencies	5.7	6.9	6.9	5.1	2.6
Sickness	1.8	1.2	0.8	0.3	0.7
Miscellaneous	2.4	1.0	0.8	0.2	-
TOTAL	37.7	43.1	48.5	39.3	26.6
Productive time*	62.9	71.5	72.7	78.1	80.9
Subsistence time*	55.4	73.8	74.1	78.4	87.3
Days temporarily absent*	10.3	1.3	8.5	6.5	5.3

* As a percentage of total survey time.

TABLE 19

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DIVISION OF LABOUR BETWEEN THE SEXES AMONG THE OROKAIVA IN 1923

Source: F. E. Williams Papers W.5, dated Wasida 5.10.23

Women

Planting and small cleaning in Garden
Fishing for small fish
Cooking
Cleaning house and surroundings
Pottery
Bark cloth and painting of same
Look after pigs and dogs
String bags
Mourning vests of Job's tears
Mourning neck ornaments, of Job's tears
Armlets of Job's tears
Make shell and string belts

Men

Clearing of gardens
Hunting
Large fishing
Building
Make spears
Make clubs
Make cane belts
Make woven armlets and leglets
Make shell and string belts
Make wooden bowls

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512

Day's work of woman

(Kjiro of Borugata)
Sometimes in garden . . . sometimes in village . . . but more often than not goes to the garden
Going in the morning she will clean . . . plant. . . dig up taro . . .
In afternoon she collects firewood . . . water (in a gourd, scooping it in with a folded leaf), . . . taro etc. in her string bag (eti) and return "at four o'clock".
Then she cooks for husband and children . . . after that kaikais betel and stops nothing